SYLVANIA

SERVICE MANUAL

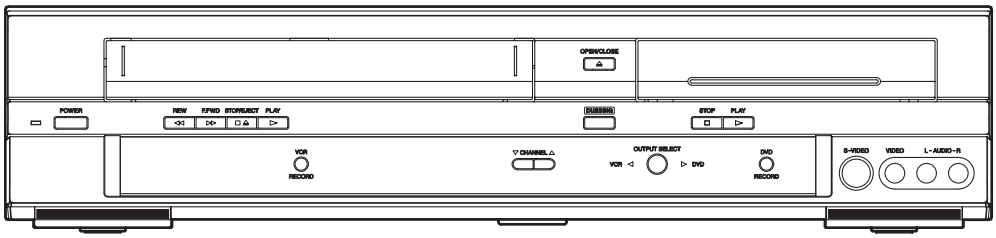
Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's
- Exploded Views
- Parts List

When servicing the deck mechanism, refer to MK14 Deck Mechanism Section.

Deck Mechanism Part No.: N2460FL

DVD RECORDER & VIDEO CASSETTE RECORDER

DVR90VG



VHS

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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MAIN SECTION

DVD RECORDER & VIDEO CASSETTE RECORDER

DVR90VG

Main Section
- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**
- **Exploded Views**
- **Parts List**

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SPECIFICATIONS

< VCR Section >

Description	Unit	Minimum	Nominal	Maximum	Remark
1. Video					
1-1. Video Output (PB)	Vp-p	0.8	1.0	1.2	SP Mode
1-2. Video Output (R/P)	Vp-p	0.8	1.0	1.2	
1-3. Video S/N Y (R/P)	dB	40	45		SP Mode, W/O Burst
1-4. Video Color S/N AM (R/P)	dB	37	41		SP Mode
1-5. Video Color S/N PM (R/P)	dB	30	36		SP Mode
1-6. Resolution (PB)	Line	230	245		SP Mode
2. Servo					
2-1. Jitter Low	μsec		0.07	0.12	SP Mode
2-2. Wow & Flutter	%		0.3	0.5	SP Mode
3. Normal Audio					
3-1. Output (PB)	dBV	-9	-6	-3	SP Mode
3-2. Output (R/P)	dBV	-9	-6	-1.5	SP Mode
3-3. S/N (R/P)	dB	36	41		SP Mode
3-4. Distortion (R/P)	%		1.0	4.0	SP Mode
3-5. Freq. resp (R/P) at 200Hz	dB	-11	-4		SP Mode
(-20dB ref. 1kHz) at 8kHz	dB	-14	-4		SP Mode
4. Tuner					
4-1. Video output	Vp-p	0.8	1.0	1.2	E-E Mode
4-2. Video S/N	dB	39	42		E-E Mode
4-3. Audio output	dB	-10	-6	-2	E-E Mode
4-4. Audio S/N	dB	40	46		E-E Mode
5. Hi-Fi Audio					
5-1. Output	dBV	-12	-8	-4	SP Mode
5-2. Dynamic Range	dB	70	85		SP Mode
5-3. Freq. resp (6dB B.W)	Hz		20 ~ 20K		SP Mode

Note: Nominal specs represent the design specs. All units should be able to approximate these – some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; In no case should a unit fail to meet limit specs.

< DVD Section >

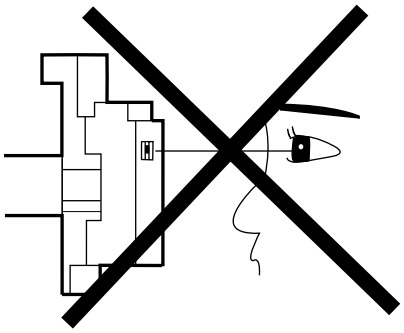
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. VIDEO				
1-1. Video Output	75 ohm load	Vp-p	1.0	
1-2. S-Video Output				
Y (Luminance)	75 ohm load	Vp-p	1.0	
C (Chrominance)	75 ohm load	Vp-p	0.286	
1-3. Component Output				
Y (Luminance)	75 ohm load	Vp-p	1.0	
Cb (Chrominance)	75 ohm load	Vp-p	0.7	
Cr (Chrominance)	75 ohm load	Vp-p	0.7	
2. AUDIO				
2-1. Output Level		Vrms	2.0	
2-2. Frequency Response				
DVD-VIDEO LPCM	fs = 48kHz 20~22kHz	dB	± 0.5	
Audio CD	fs = 44.1kHz 20~20 kHz	dB	± 0.5	
2-3. Signal/Noise Ratio				
DVD-VIDEO LPCM		dB	90	
CD		dB	90	
REC & Playback	Input: 2 Vrms, Rec Speed: XP	dB	80	
2-4. Dynamic Range				
DVD-VIDEO LPCM		dB	80	
CD		dB	80	
REC & Playback	Input: 2 Vrms, Rec Speed: XP	dB	80	
2-5. THD+N	1 kHz, 0 dB			
DVD-VIDEO LPCM		%	0.01	
CD		%	0.01	
REC & Playback	Input: 2 Vrms, Rec Speed: XP	%	0.01	

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC120 V 60 Hz
4. Ambient temperature : 5 °C ~ 40 °C

LASER BEAM SAFETY PRECAUTIONS

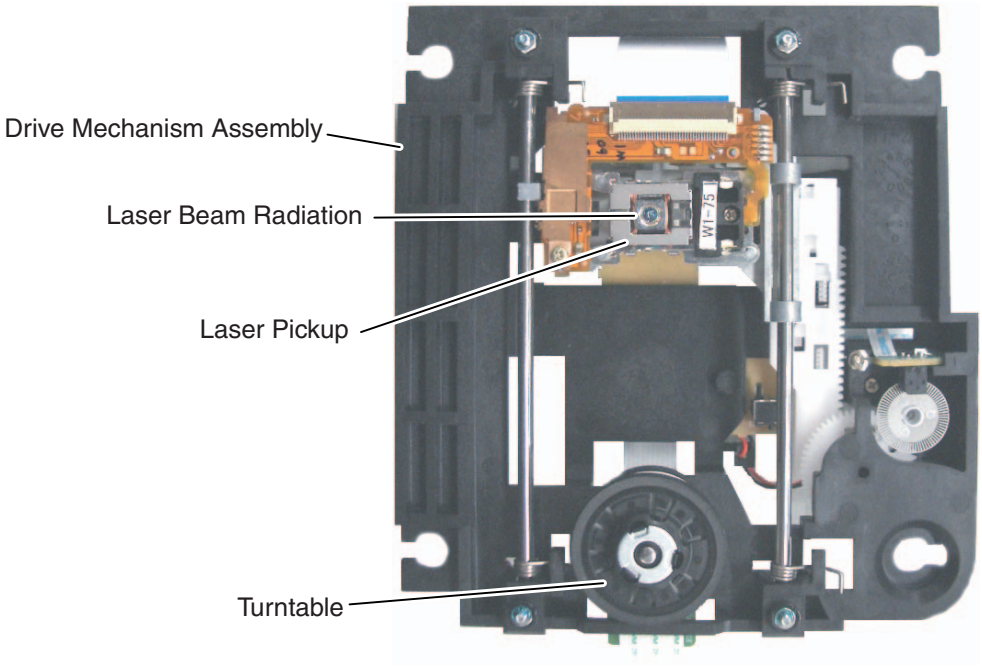
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



DANGER - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU FAISCEAU.
注意 - ここを開くと可視及び不可視のレーザー光が出ます。ビームを直接見たり、触れたりしないでください。

Location: Inside Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements. Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation tape
2) PVC tubing
3) Spacers
4) Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure
1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector. (Discard it.)
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
120 V	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

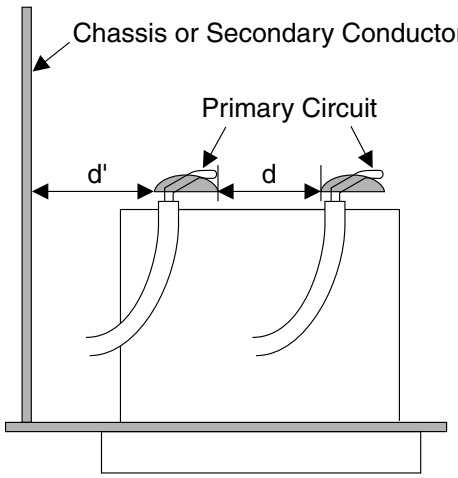


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON):

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

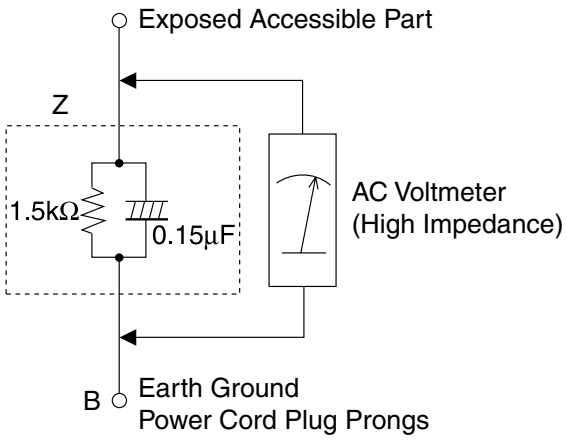


Fig. 2

Table 2: Leakage current ratings for selected areas

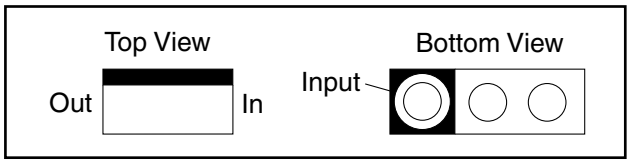
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA Peak	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

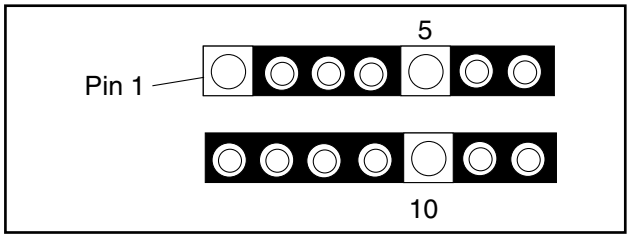
STANDARD NOTES FOR SERVICING

Circuit Board Indications

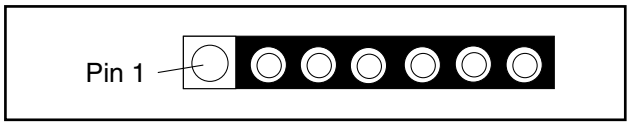
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

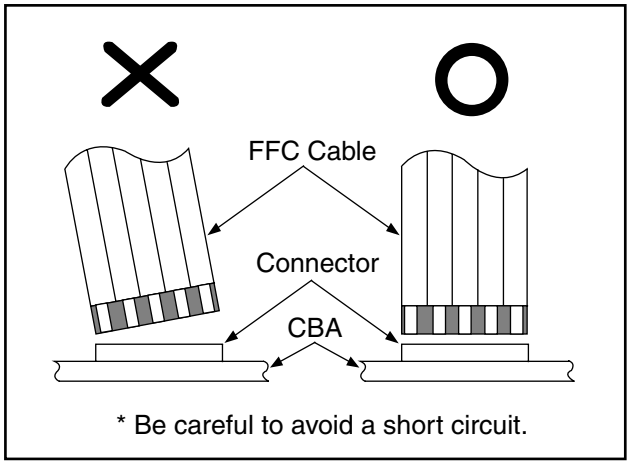


3. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

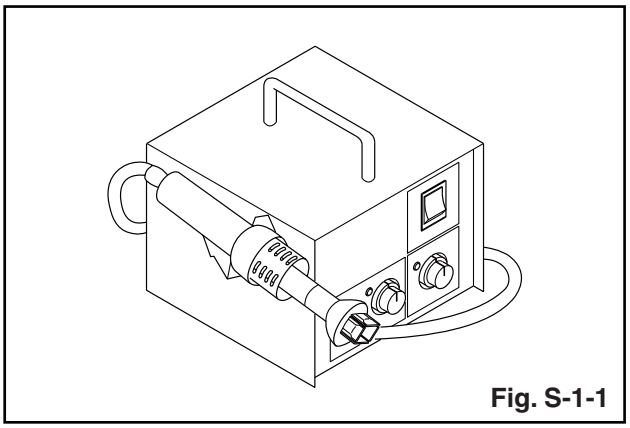


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

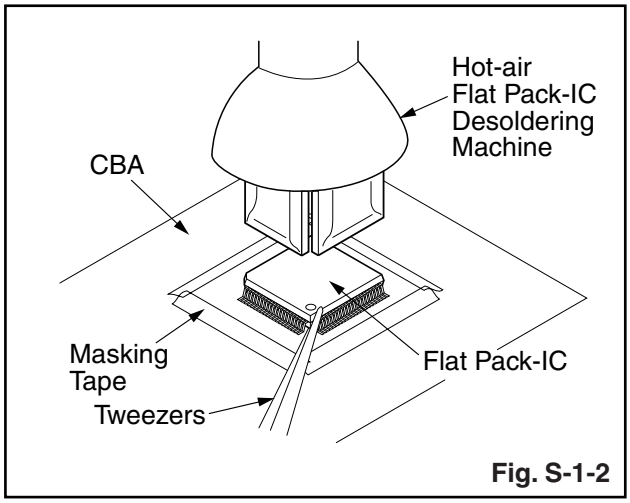


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

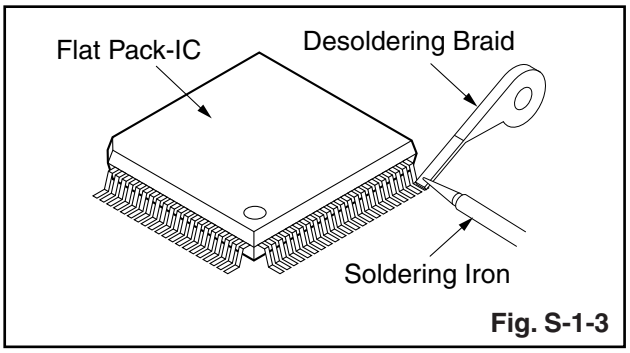


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

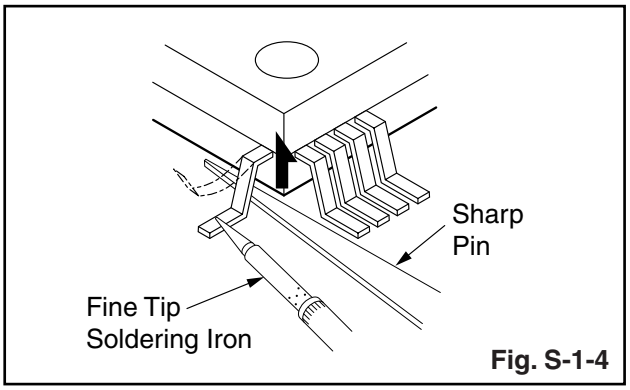


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

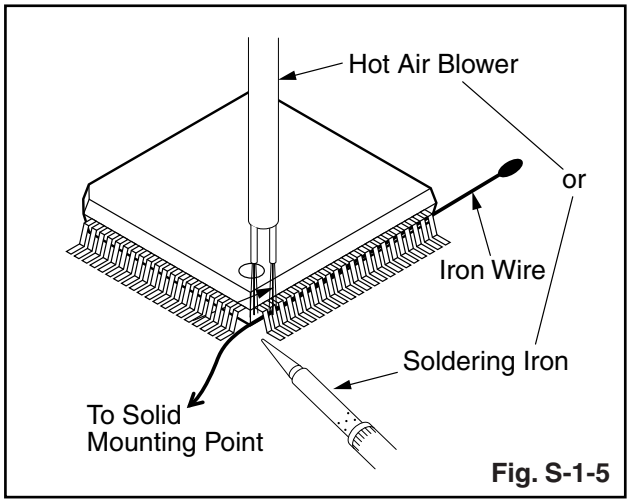


Fig. S-1-5

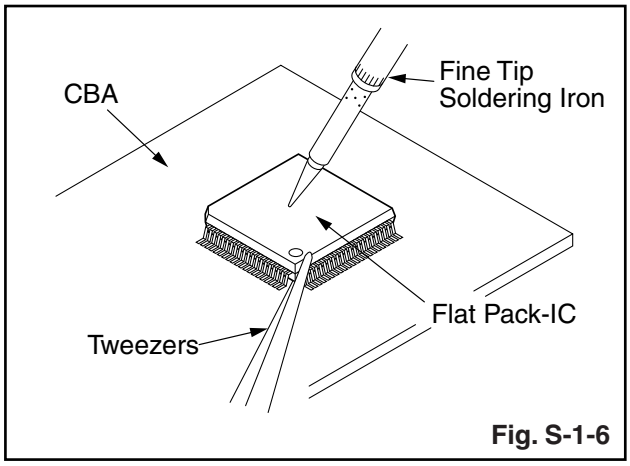


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

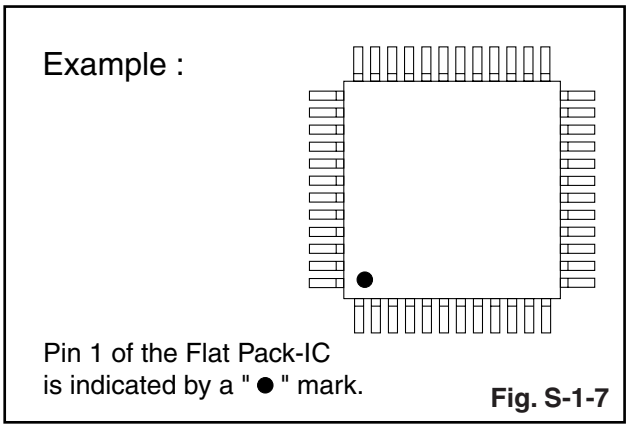


Fig. S-1-7

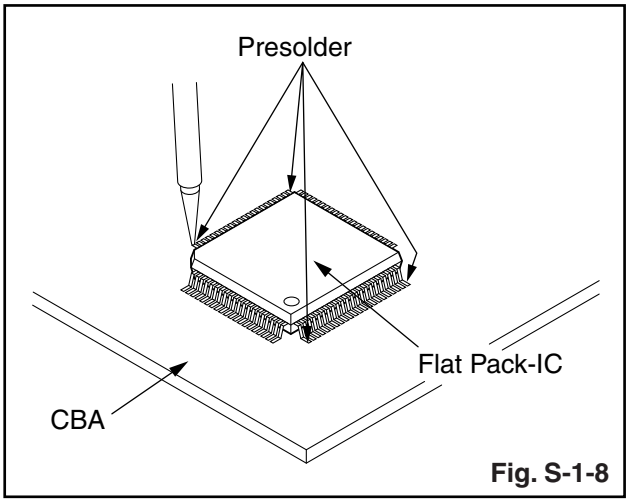


Fig. S-1-8

Instructions for Handling Semi-conductors

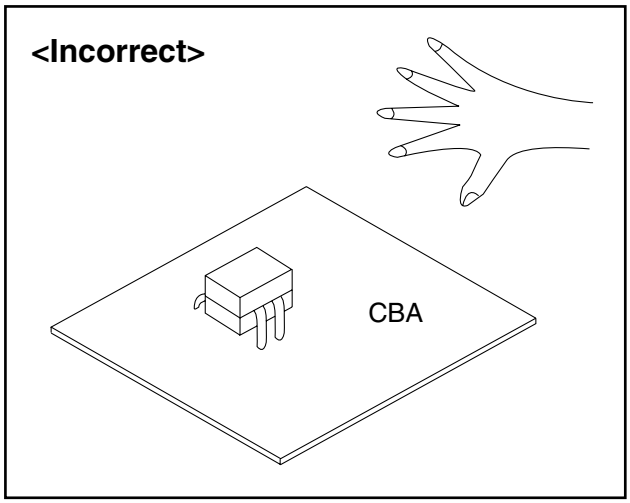
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

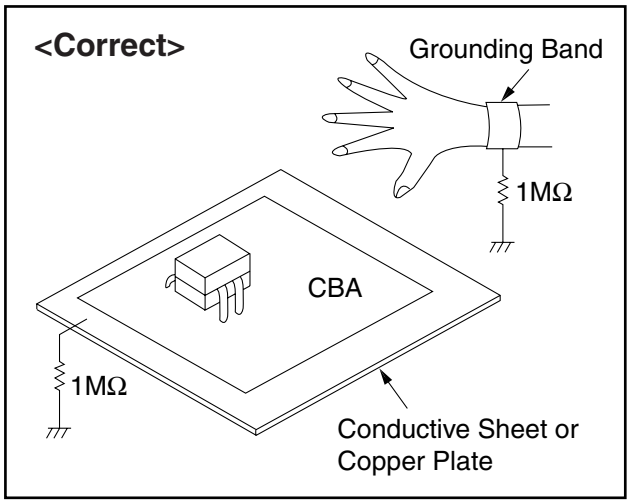
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press the PLAY button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP502 (S-INH) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

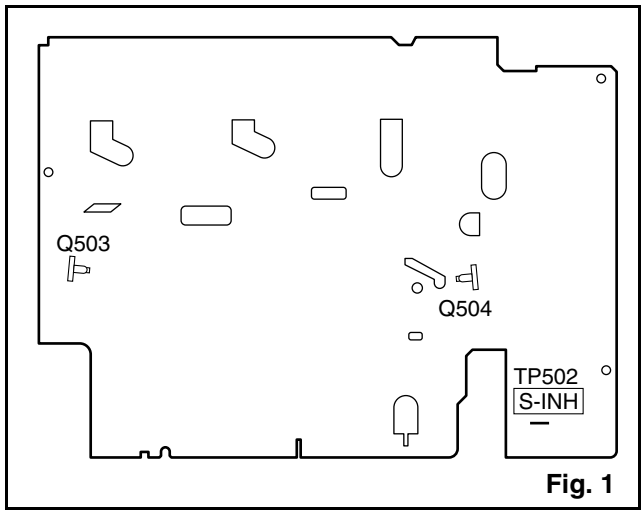


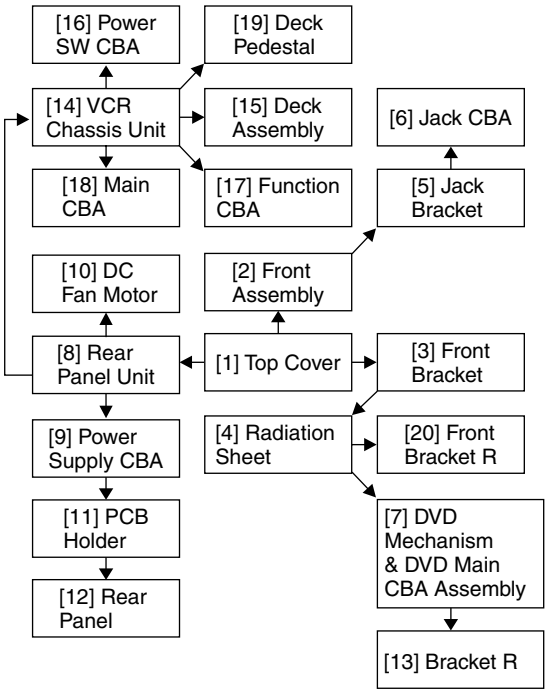
Fig. 1

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Cover	D1	6(S-1)	---
[2]	Front Assembly	D2	*5(L-1), *3(L-2), *CN1609	1 1-1 1-2 1-3
[3]	Front Bracket	D2	2(S-2), (S-3)	---
[4]	Radiation Sheet	D2	----------	---
[5]	Jack Bracket	D3	2(S-4)	---
[6]	Jack CBA	D3	Jack Earth Plate	---
[7]	DVD Mechanism & DVD Main CBA Assembly	D4	2(S-5A), 2(S-5B), *CN101, *CN701	---
[8]	Rear Panel Unit	D5	6(S-6), 3(S-7), (S-8), *CN101, *CN102	---
[9]	Power Supply CBA	D6	4(S-9), AC Cord	---
[10]	DC Fan Motor	D6	2(S-10), Earth Plate	---
[11]	PCB Holder	D6	3(S-11)	---
[12]	Rear Panel	D6	----------	---
[13]	Bracket R	D7	2(S-12)	---
[14]	VCR Chassis Unit	D7	5(S-13), 6(S-14), (S-15), (S-16)	---
[15]	Deck Assembly	D8	(S-17), (S-18), Desolder	2 3
[16]	Power SW CBA	D8	Desolder	---
[17]	Function CBA	D8	Desolder	---
[18]	Main CBA	D8	----------	---
[19]	Deck Pedestal	D9	8(S-19)	---
[20]	Front Bracket R	D9	(S-20)	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1): Identification (location) No. of parts in the figures

(2): Name of the part

(3): Figure Number for reference

(4): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, L=Locking Tab, S=Screw, CN=Connector
*=Unhook, Unlock, Release, Unplug, or Desolder
e.g. 6(S-1) = six Screws (S-1),
5(L-1) = five Locking Tabs (L-1)

(5): Refer to “Reference Notes.”

Reference Notes

CAUTION 1: Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.

1-1. Release five Locking Tabs (L-1).

1-2. Release three Locking Tabs (L-2)

1-3. Disconnect Connector (CN1609), and remove the Front Assembly.

2. When reassembling, solder wire jumpers as shown in Fig. D8.

3. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. D8. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D8.

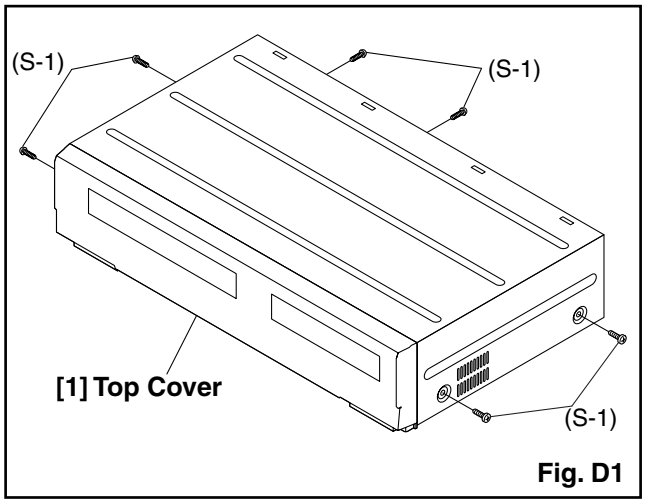


Fig. D1

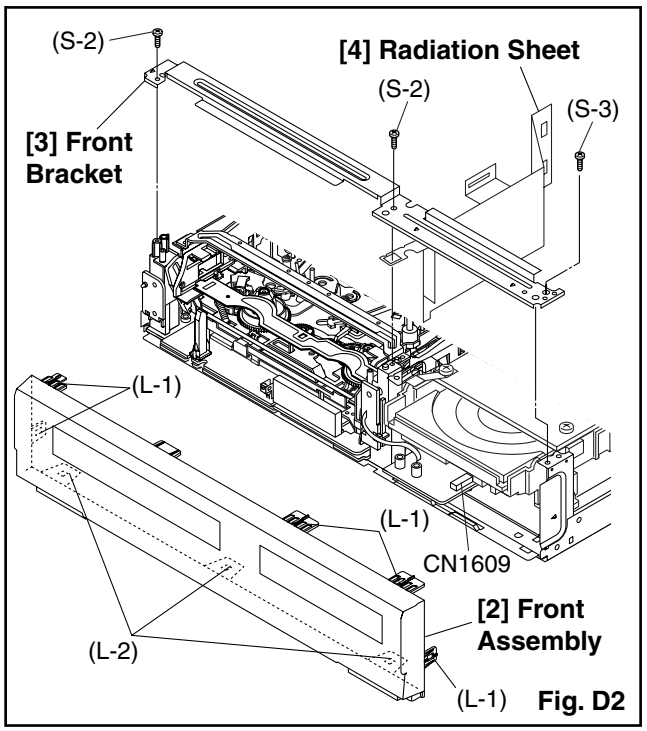


Fig. D2

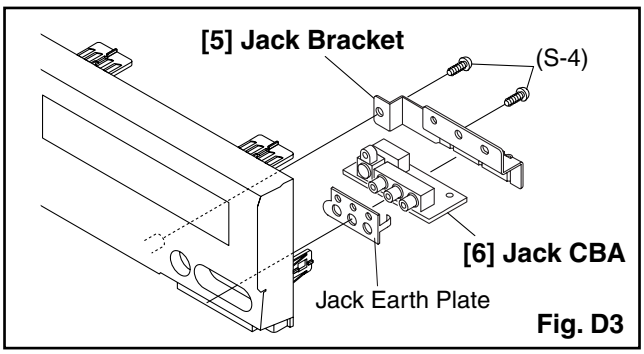


Fig. D3

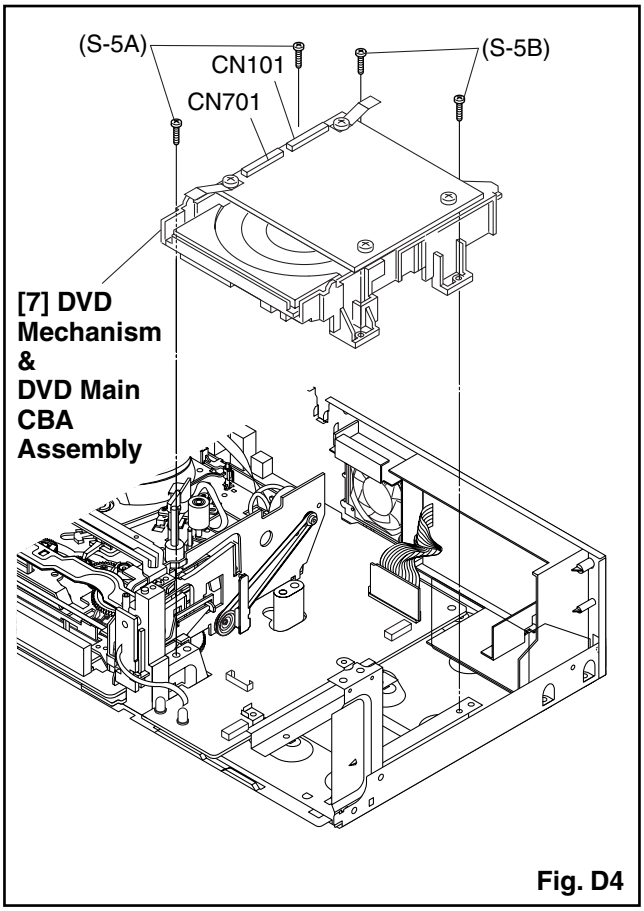


Fig. D4

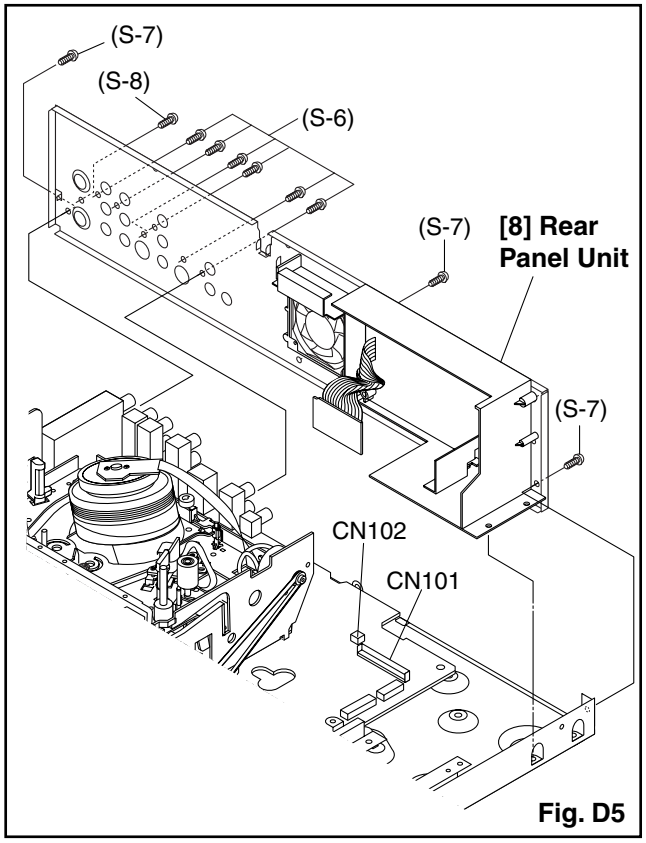


Fig. D5

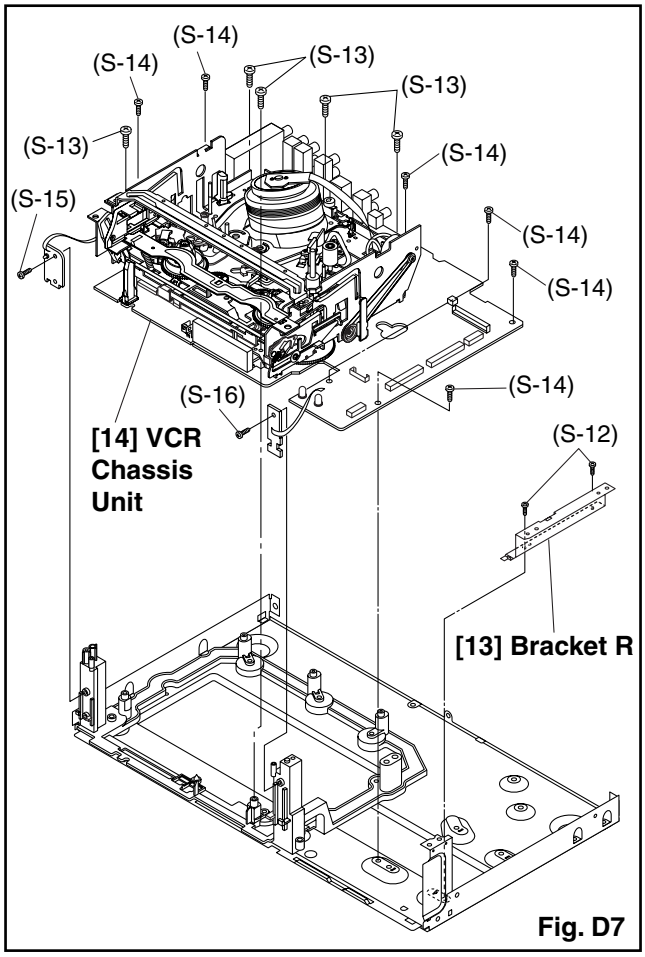


Fig. D7

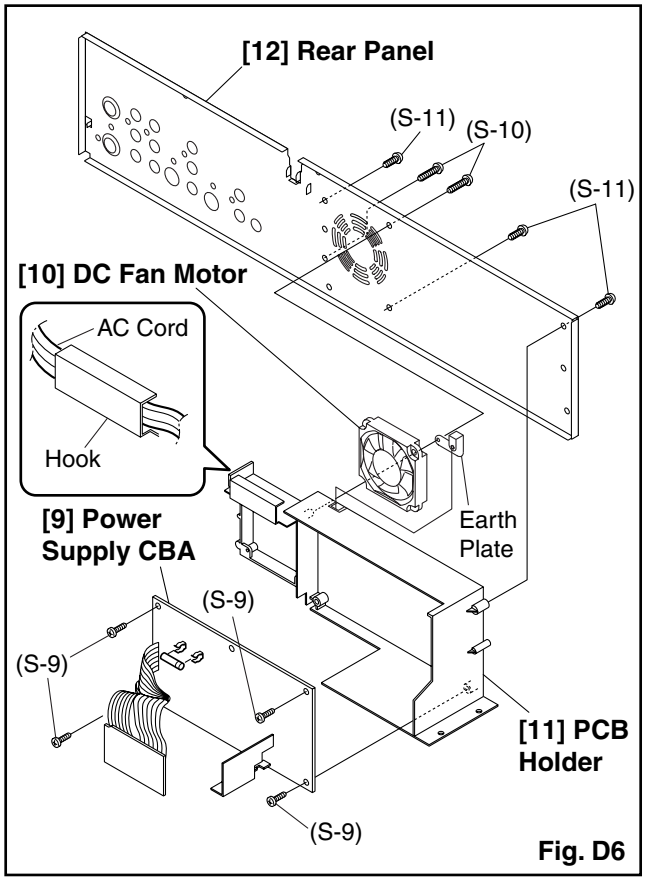
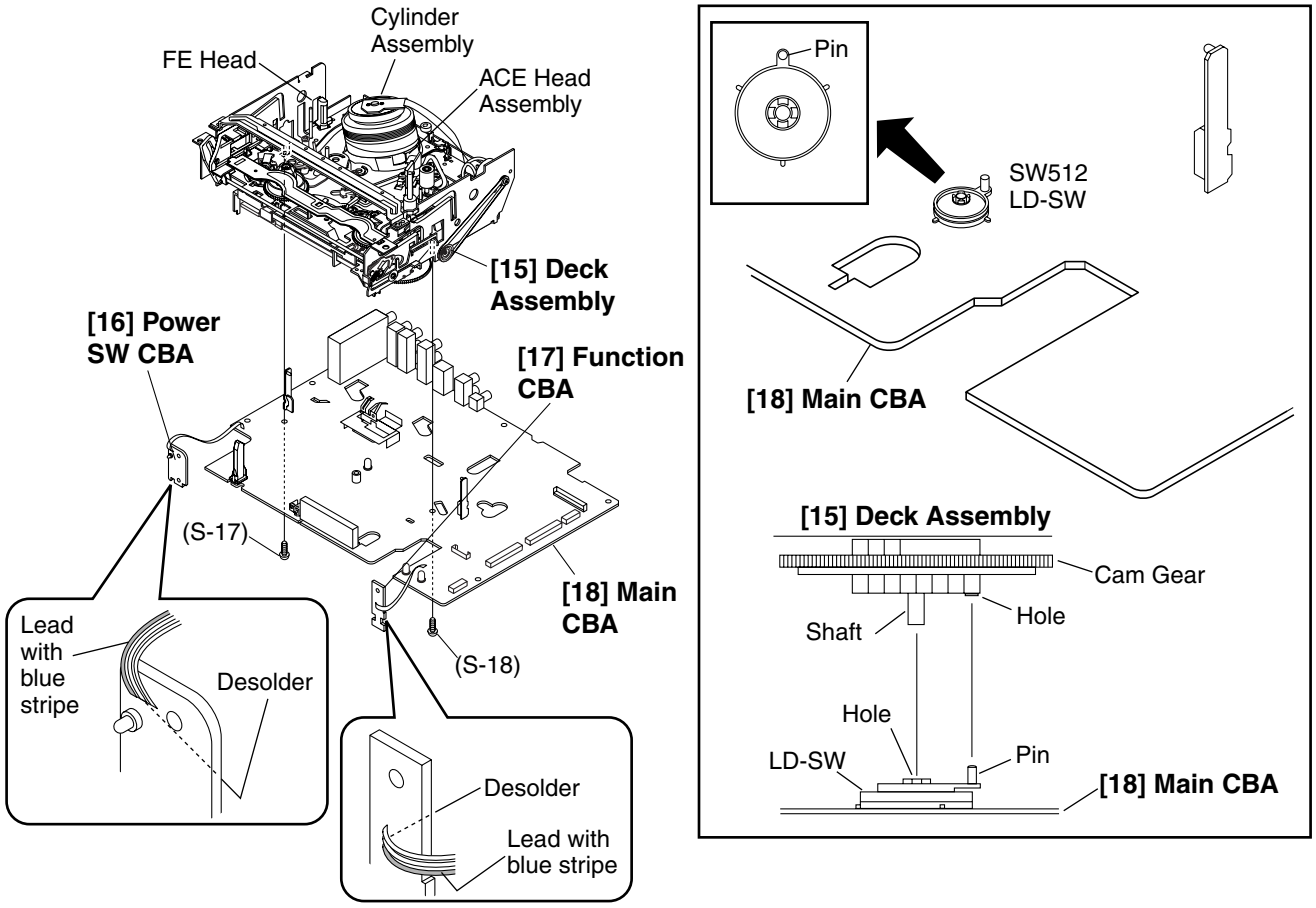
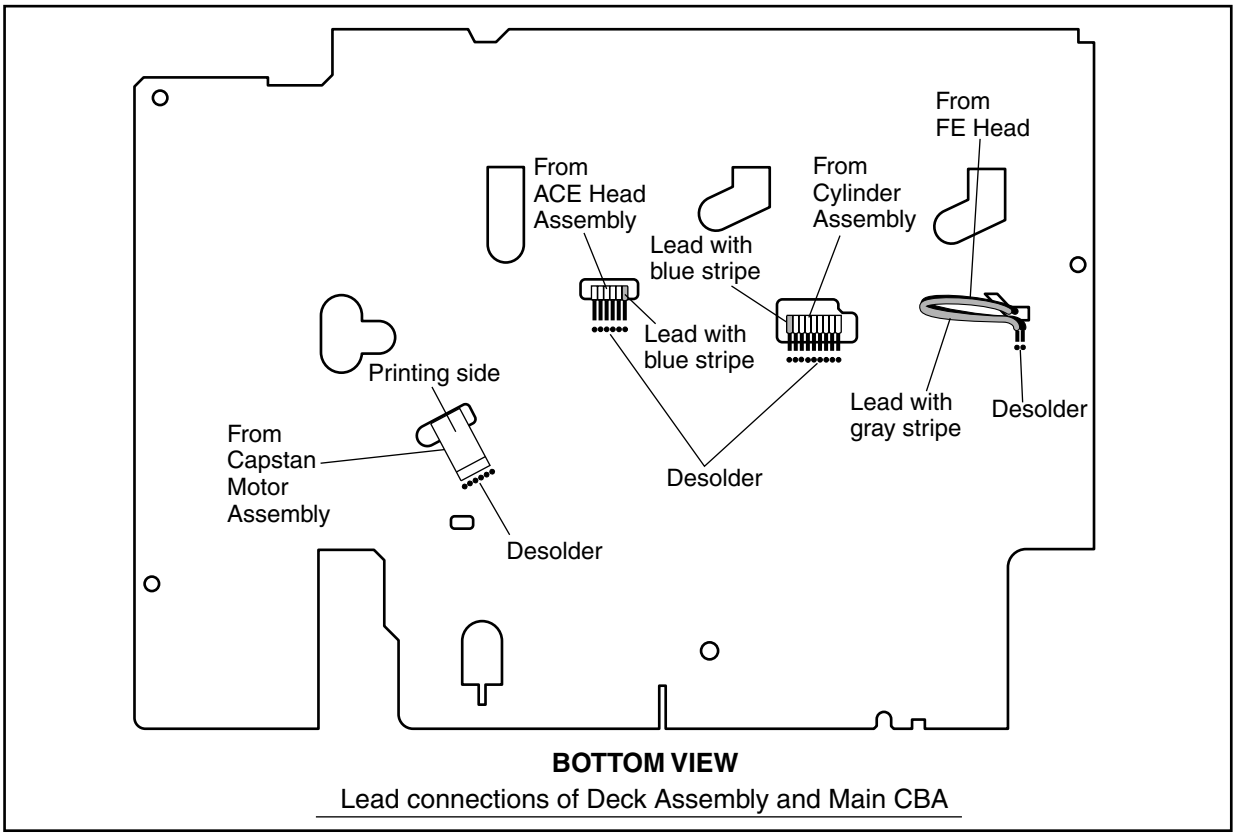


Fig. D6





BOTTOM VIEW

Lead connections of Deck Assembly and Main CBA

Fig. D8

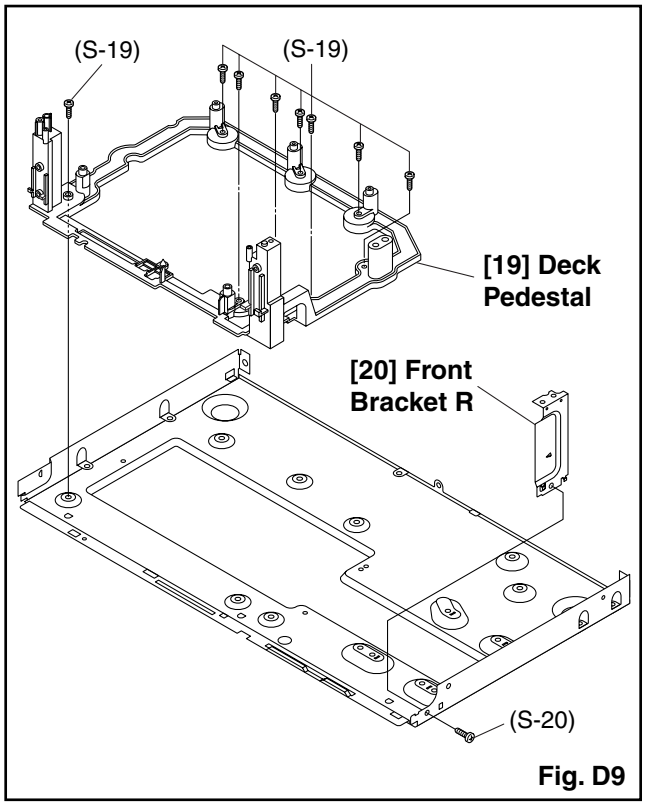
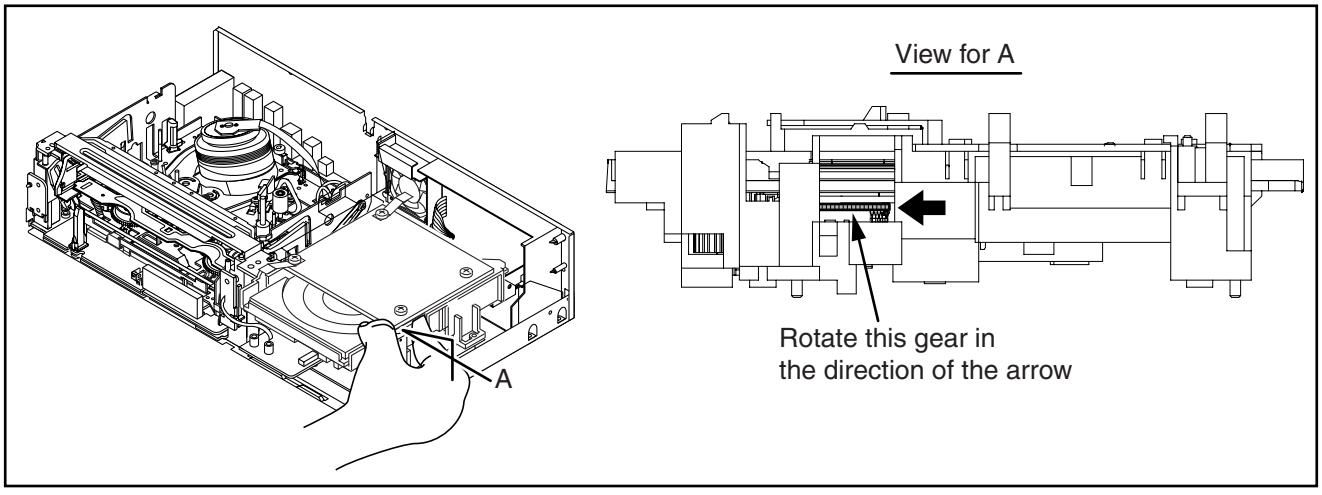


Fig. D9

3. How to Eject Manually

Note: When rotating the gear, be careful not to damage the gear.

1. Remove the Top Cover.
2. Rotate the gear in the direction of the arrow manually as shown below until the tray descends.
3. Pull the tray out manually and remove a disc.



ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either [CHANNEL ▼] or [CHANNEL ▲] button on the front panel first, then the [PLAY] button on the front panel.

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50 V/Div.,
   F-Range: DC~AC-20 MHz
2. Alignment Tape (FL8A)

Head Switching Position Adjustment

Purpose: To determine the Head Switching position during playback.

Symptom of Misadjustment: May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj. Point	Mode	Input
TP751(V-OUT) TP302(RF-SW) GND	VR501 (Switching Point)	PLAY (SP)	-----
Tape	**Measurement Equipment**	**Spec.**	
FL8A	Oscilloscope	6.5H ± 1H (412.7µs±63.5µs)	

Connections of Measurement Equipment

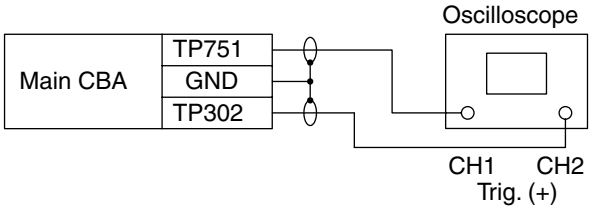
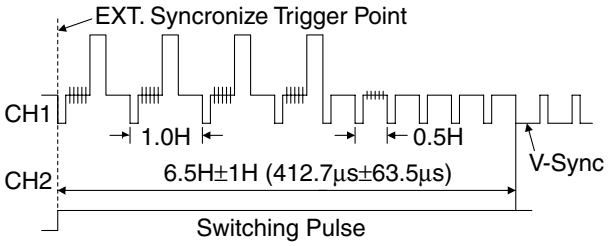


Figure 1



Note: TP751(V-OUT), TP302(RF-SW), VR501(Switching Point) --- Main CBA

Reference Notes:

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H ± 1H (412.7 µs ± 63.5 µs) delayed position from the rising edge of the CH2 head switching pulse waveform.

HOW TO INITIALIZE THE DVD RECORDER & VCR

To put the program back at the factory-default, initialize the DVD recorder & VCR as the following procedure.

< DVD Section >

1. Turn the DVD recorder on.
2. Confirm that no disc is loaded or that the disc tray is open. To put the DVD recorder into the Version display mode, press [DVD], [CM SKIP], [1], [2], and [3] buttons on the remote control in that order. Fig. a appears on the screen.

*1: "*******" differs depending on the models.
*2: Firmware Version differs depending on the models, and this indication is one example.

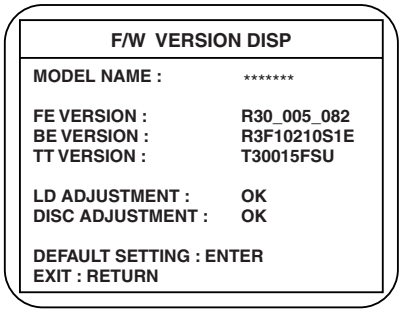


Fig. a Version Display Mode Screen

3. Press [ENTER] button, then the DVD recorder starts initializing. When the initializing is completed, the DVD recorder exits the Version display mode and turns off the power automatically.
   * To move into the Normal mode from the Version display mode, press [RETURN] button on the remote control instead of [ENTER] button.
   * When [POWER] button is pressed before [ENTER] button is pressed, the DVD recorder exits the Version display mode, then the power turns off.

FIRMWARE RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD recorder into version up mode, press [DVD], [CM SKIP], [6], [5], and [4] buttons on the remote control unit in the order. Then the tray will open automatically.
   Fig. a appears on the screen and Fig. b appears on the VFD.

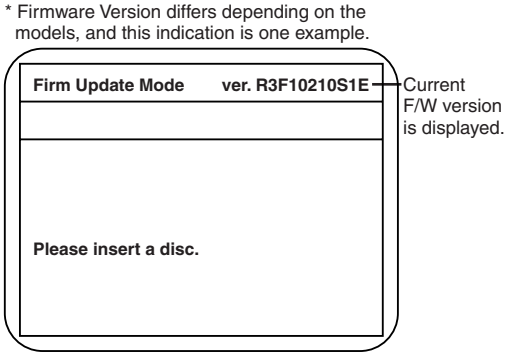

* Firmware Version differs depending on the models, and this indication is one example.
Firm Update Mode
ver. R3F10210S1E
Current F/W version is displayed.
Please insert a disc.

Fig. a Version Up Mode Screen

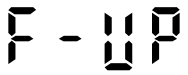


Fig. b VFD in Version Up Mode

3. Load the disc for version up.
   Fig. c appears on the screen. The file on the top is highlighted as the default.
   When there is only one file to exist, Step 4 will start automatically.

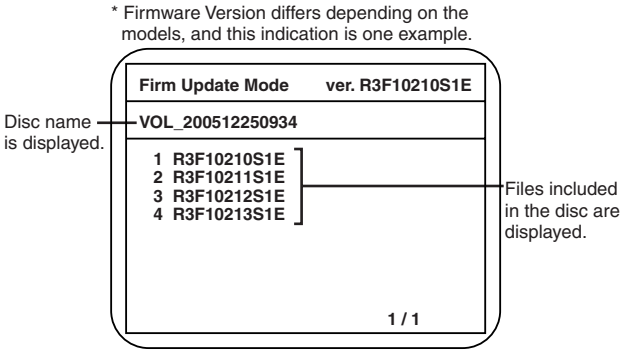


Fig. c Update Disc Screen

4. Select the firmware version pressing arrow buttons, then press [ENTER].
   Fig. d appears on the screen and Fig. e appears on the VFD. The DVD recorder starts updating.

   About VFD indication of Fig. e:

   1) When Fig. d is displayed on the screen, “F-UP” is displayed on the VFD.
   2) When “Firmware Updating... XX% Complete.” is displayed on the screen, “10210” is displayed on the VFD.

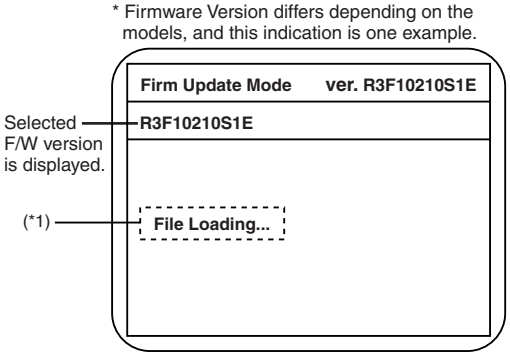

* Firmware Version differs depending on the models, and this indication is one example.
Firm Update Mode
ver. R3F10210S1E
Selected F/W version is displayed.
R3F10210S1E
(*1)
File Loading...

Fig. d Programming Mode Screen

Fig. e VFD in Programming Mode (Example)

The appearance shown in (*1) of Fig. d is described as follows.

No.	Appearance	State
1	File Loading...	Sending files into the memory
2	Firmware Updating... XX% Complete.	Writing new version data
---	Firmware Update Failure	Failed in updating

5. After updating is finished, the tray opens automatically.
   At this time, no button is available.
6. Pull out the AC code once, then insert it again.

FUNCTION INDICATOR SYMBOLS

< VCR Section >

Note:

If a mechanical malfunction occurs, the power is turned off. When the power comes on again after that by pressing [POWER] button, an error message is displayed on the TV screen for 5 seconds.

Led Mode	Indicator Active
When reel or capstan mechanism is not functioning correctly	"⏏ R" is displayed on a TV screen. (Refer to Fig. 1.)
When tape loading mechanism is not functioning correctly	"⏏ T" is displayed on a TV screen. (Refer to Fig. 2.)
When cassette loading mechanism is not functioning correctly	"⏏ C" is displayed on a TV screen. (Refer to Fig. 3.)
When the drum is not working properly	"⏏ D" is displayed on a TV screen. (Refer to Fig. 4.)
P-ON+5V Power safety detection	"⏏ P" is displayed on a TV screen. (Refer to Fig. 5.)

TV screen

When reel or capstan mechanism is not functioning correctly

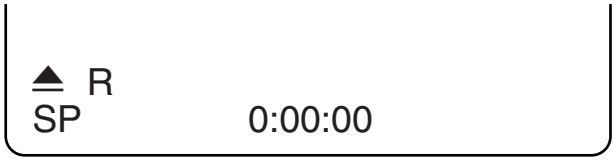


Fig. 1

When tape loading mechanism is not functioning correctly

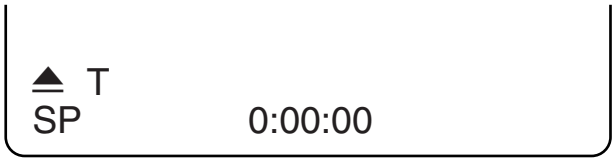


Fig. 2

When cassette loading mechanism is not functioning correctly

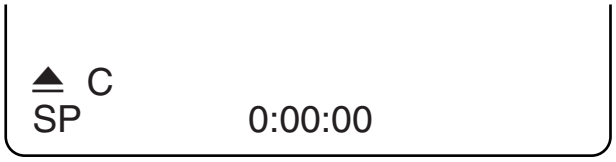


Fig. 3

When the drum is not working properly

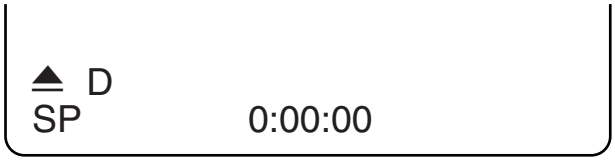


Fig. 4

P-ON+5V Power safety detection

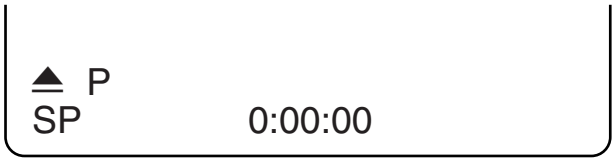
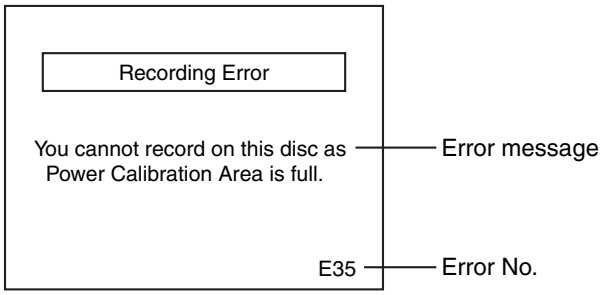


Fig. 5

< DVD Section >

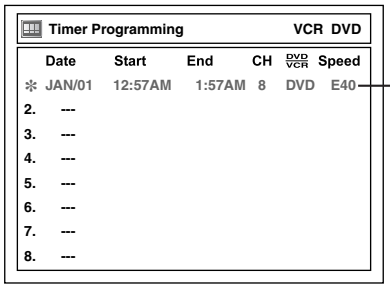
Note: If an error occurs, a message with the error number appears on the screen.



Message	Solution	Error No.	Error Description	Priority
Can not record on this disc.	Insert the recordable disc, and ensure the disc status satisfies the recording requirements.	1	An error occurs during data reading.	-
		2	There is no reply for 15 seconds in Test Unit Ready.	-
		3	Cannot write the data after trying three times.	-
		4	An error occurs with OPC.	-
		5	During recovery in a record.	-
		6	An error occurs even if recovery has been tried three times.	-
		7	An error occurs in a format.	-
		8	It cannot start an encode.	-
		9	NV_PCK/RDI_PCK is not in encoded data.	-
		10	Encode Pause condition continued for 10 minutes.	-
		11	Encode Pause condition continued in normal REC condition for 10 minutes.	-
		12	Difference in the address and can not get StreamID of RDI/VIDEO.	-
		13	It is a reply that “ATAPI is not readable.”	-
		14	Cannot write the data after recovering SMALL VMGI.	-
		15	Cannot write the data after DVD-R Reverse Track.	-
		16	An error occurs in Finalize Close.	-
		17	An error occurs in Rec Stop Close.	-
		18	An error occurs in PCA Full (DVD_R).	-
		19	Safety Stop occurs during editing.	-
		20	High Speed Disc.	2
		21	The disc is not formatted.	5
		22	Disc Error has occurred.	3
		23	The -R Disc of VR Mode.	6
		24	The disc except DVD-R/RW or finalized DVD-R.	1
This program is not allowed to be recorded.	You cannot record copy prohibited programs.	25	During the Macrovision picture input.	11
		26	During the CGMS picture input.	12
This program is not recordable in Video mode.	Set “DVD-RW Recording Format” to “VR mode”.	27	During the CGMS picture (possible to record once) input. (Video Format Disc)	12

Message	Solution	Error No.	Error Description	Priority
This program is not allowed to be recorded on this disc.	Insert a ver.1.1 CPRM compatible DVD-RW disc.	28	During the CGMS picture (possible to record once) input. (Disc which is not for the correspondence to VR Format CPRM)	12
This disc is protected and not recordable.	Release the disc protect setting in the Disc Setting menu.	29	Disc Protected Disc.	7
Disc is full. (No area for new recording)	Insert the recordable disc with enough recording space.	30	No avilable recording space.	5
You cannot record more than 99 titles on one disc. (The maximum is 99.)	Delete unnecessary titles.	31	Its recording capacity has been reached. (Video Format Disc)	7
		32	Its recording capacity has been reached. (VR Format Disc)	8
You cannot record more than 999 chapters on one disc. (The maximum is 999.)	Delete unnecessary chapter markers.	33	The 999 chapter has been reached. (VR Format Disc)	9
You cannot record on this disc as Control Information is full.	Delete unnecessary titles.	34	There is not space to record field of control information.	10
You cannot record on the disc as Power Calibration Area is full.	Insert a new disc.	35	PCA is Full. (in REC start)	4
This disc is already finalized.	Release the finalizing for this disc.	36	It is finalized. (Video Format Disc)	6
Can not record on this disc.	Repeat the same operation.	37	Access to Memory Area range outside.	-
		38	Sector Address is wrong.	-
		39	BUP writing error of chapter editing.	-

If an error occurs during the timer recording, one of the following error numbers (40 to 42) or the above error messages (error number: 1 to 39) is displayed on the recording menu after timer recording.
(Once the timer programming list with error indication is displayed, the program line(s) with error will be cleared only after the programs are cancelled and reset to the timer standby mode.)
(In the case of the error occurs during setting the timer programming, no error messages is displayed.)

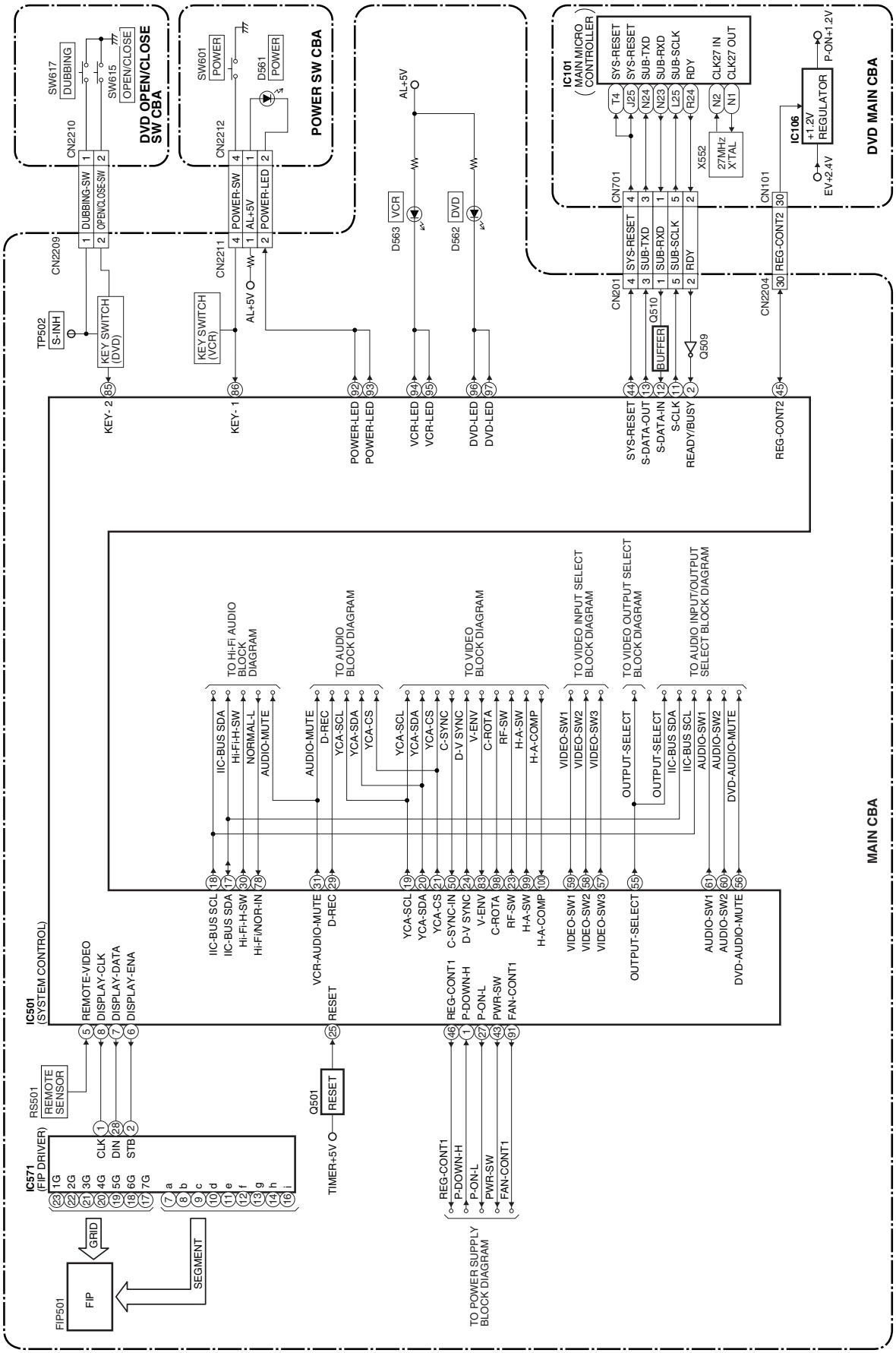


A program with the error number is grayed out and asterisked on the timer programming list.

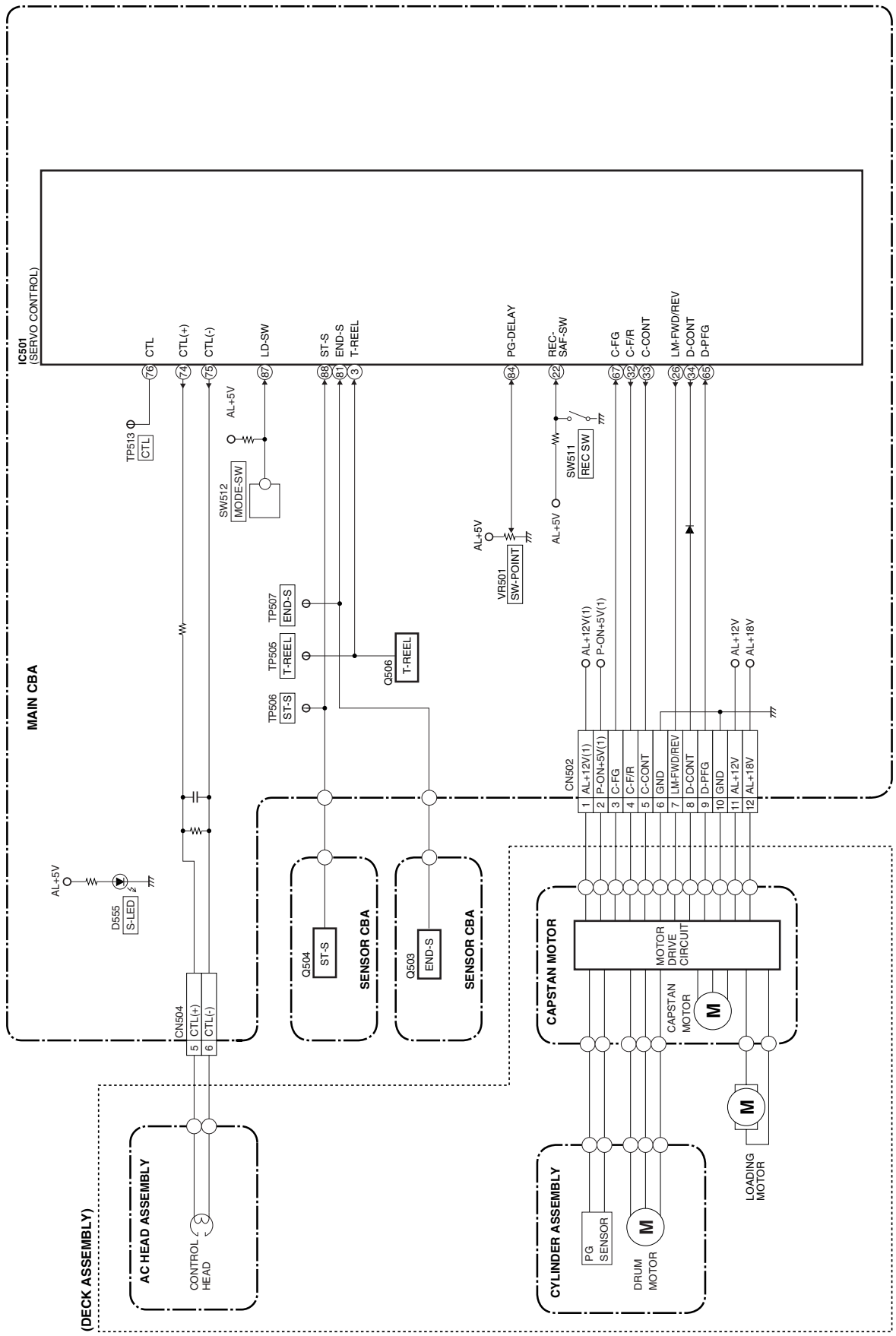
Message	Solution	Error No.	Error Description	Priority
Error message is not displayed.	- Set the timer programming correctly. - Set the timer programming before the start time. - Insert a recordable videotape with a record tab.	40	- Some portion has not been recorded because of program overlapping. - Recording did not start at the start time. - No Videotape is inserted. Videotape ran out during recording.	-
	Turn the power on and set the clock correctly then set timer programming again.	41	Power failed	-
	Insert the recordable disc.	42	No disc when recording	-

BLOCK DIAGRAMS

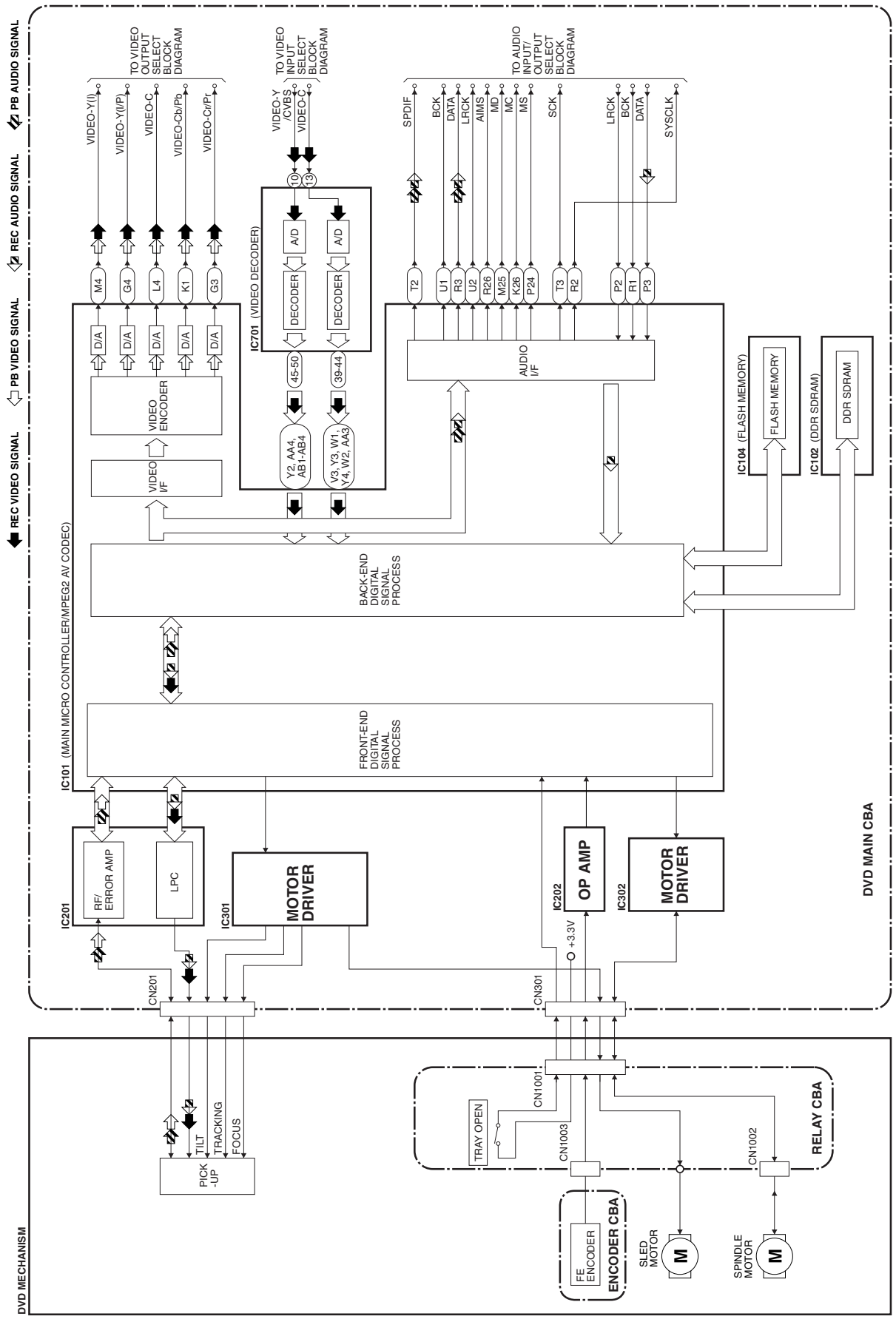
System Control Block Diagram



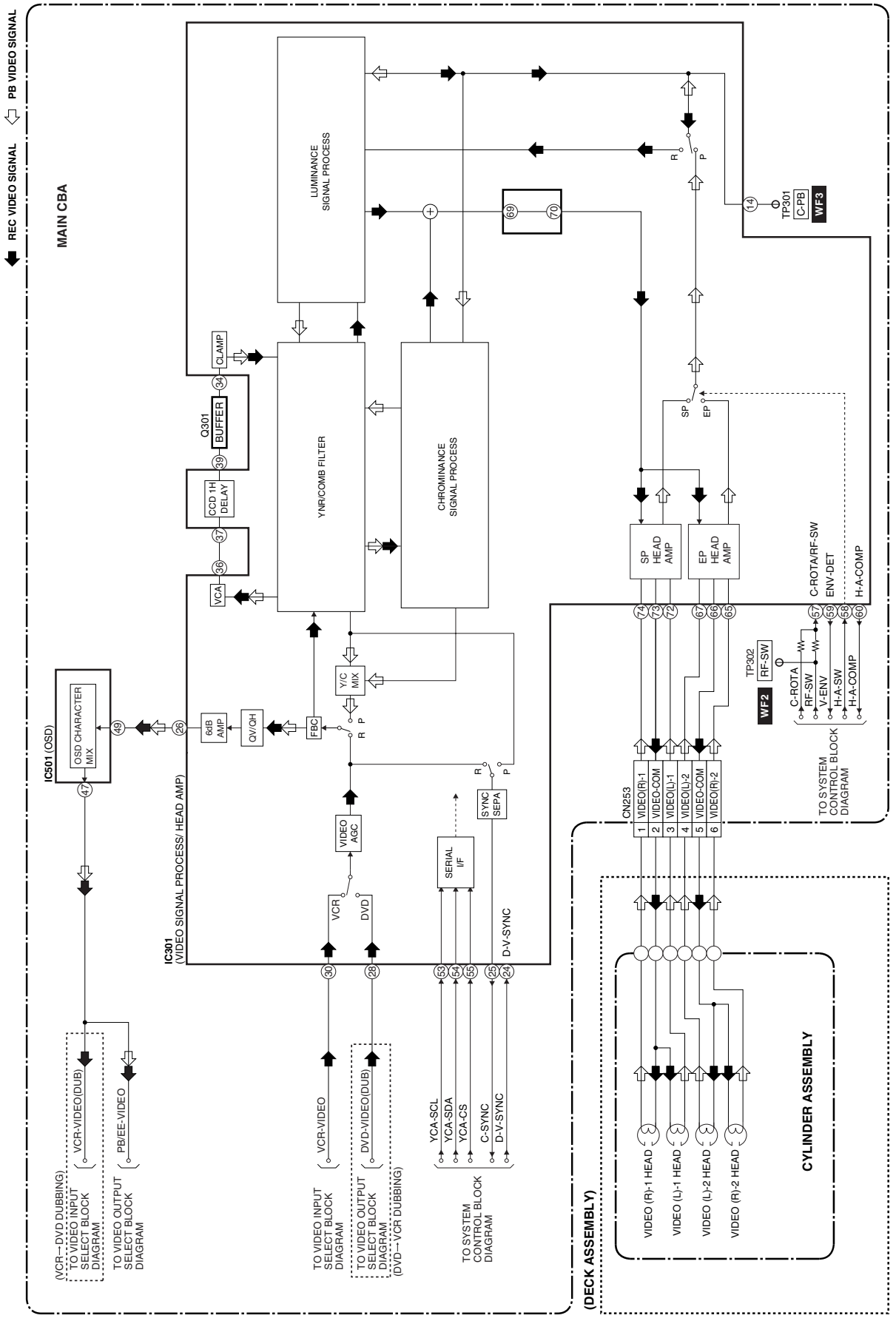
Servo Block Diagram



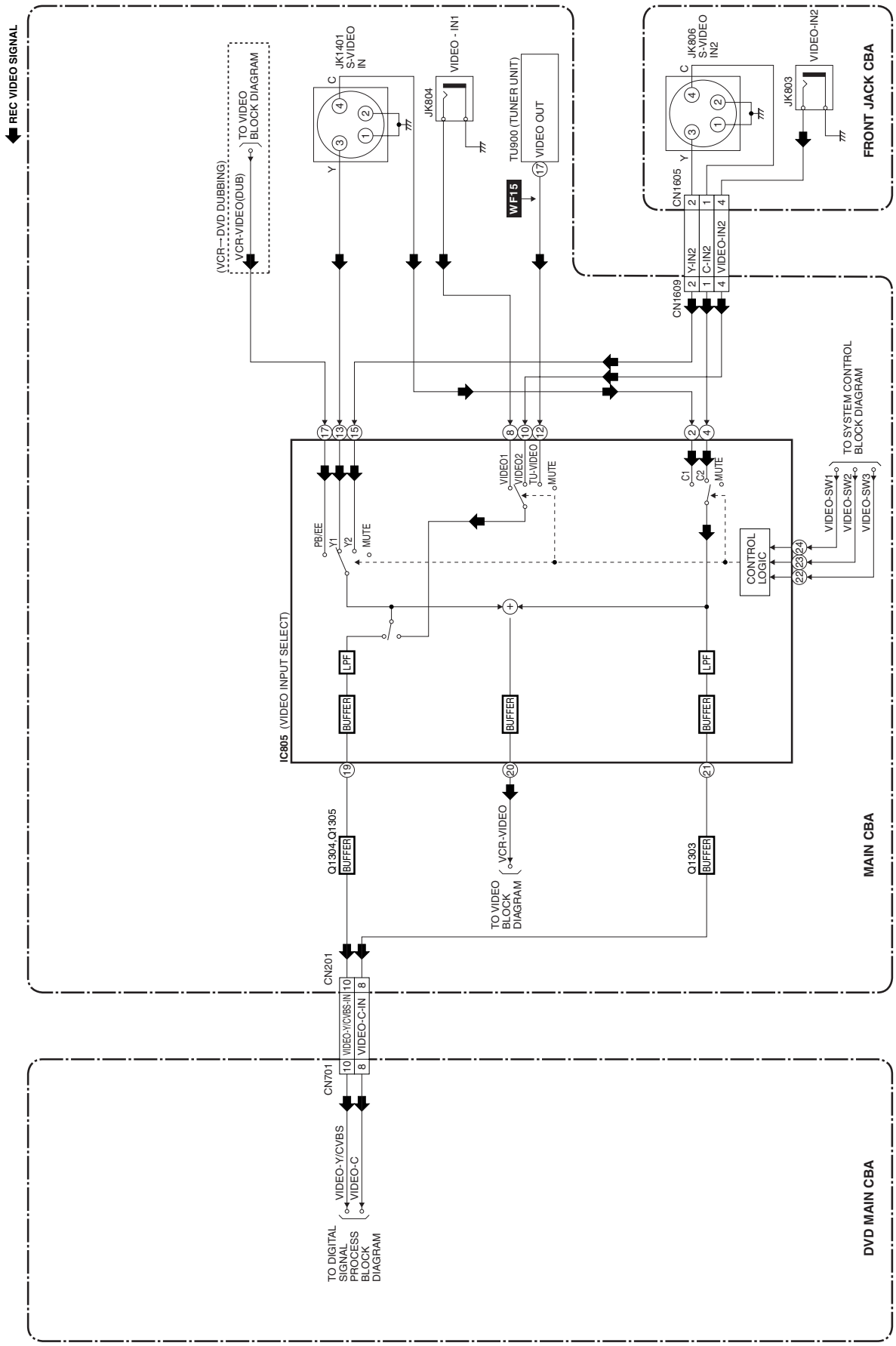
Digital Signal Process Block Diagram



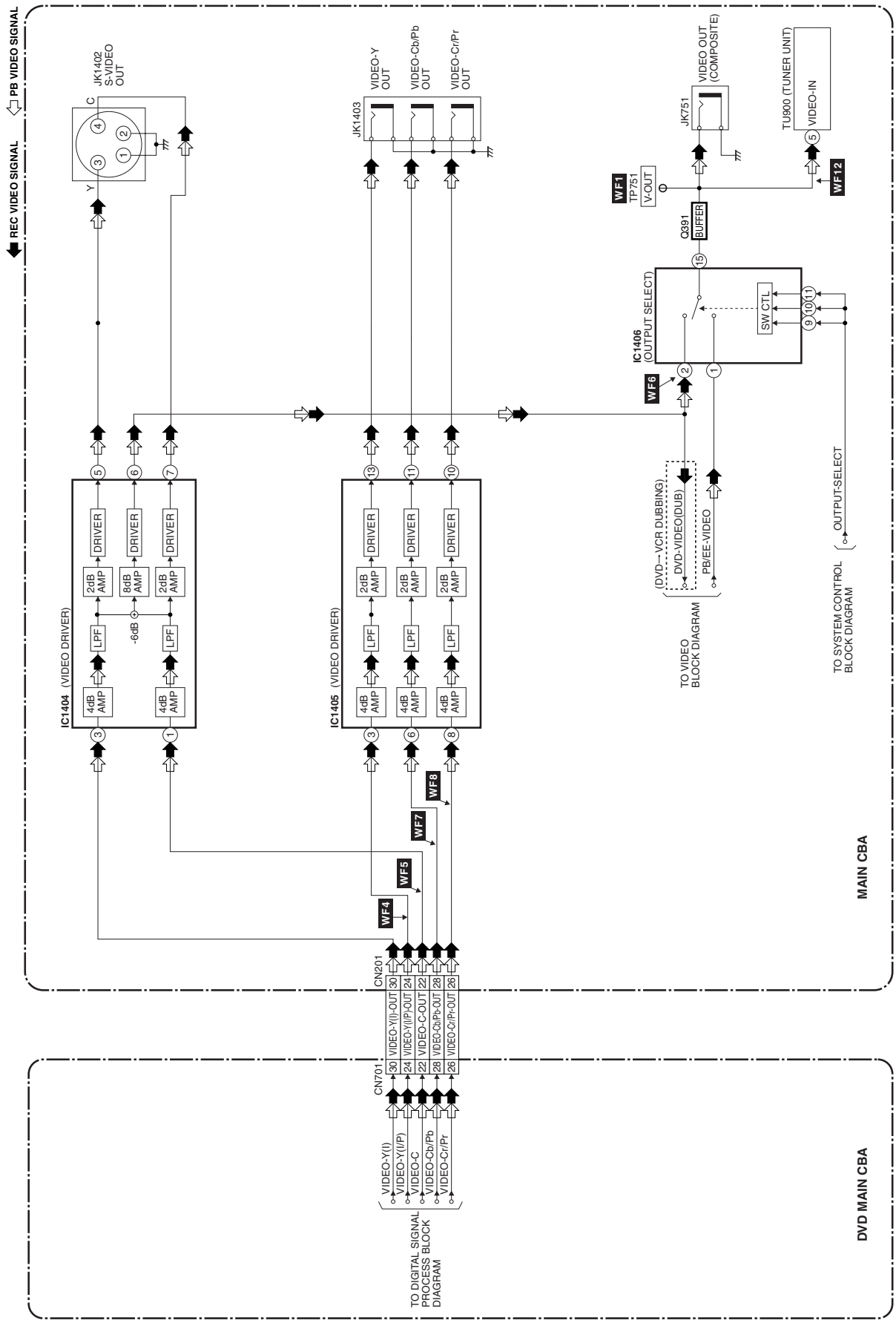
Video Block Diagram



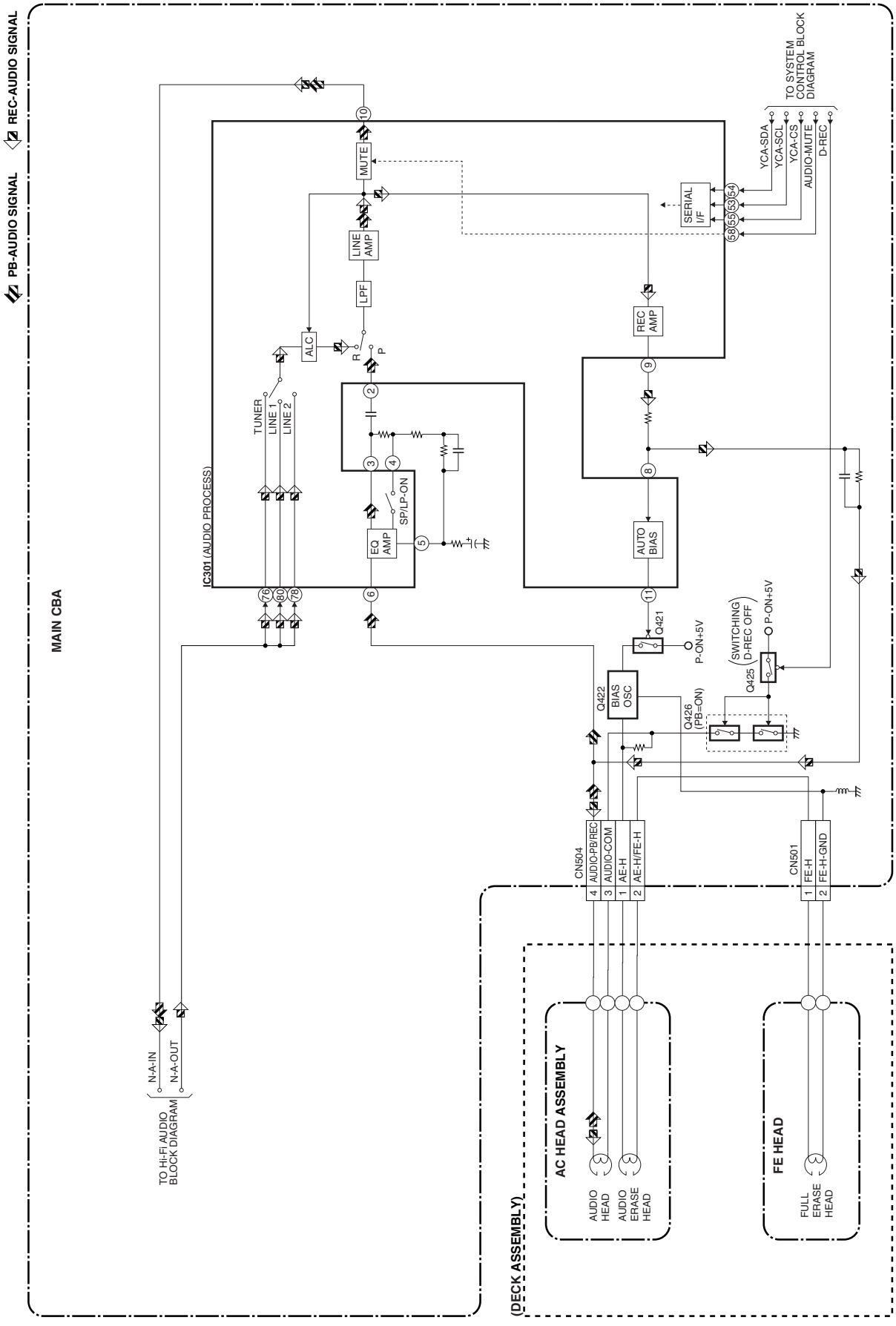
Video Input Select Block Diagram



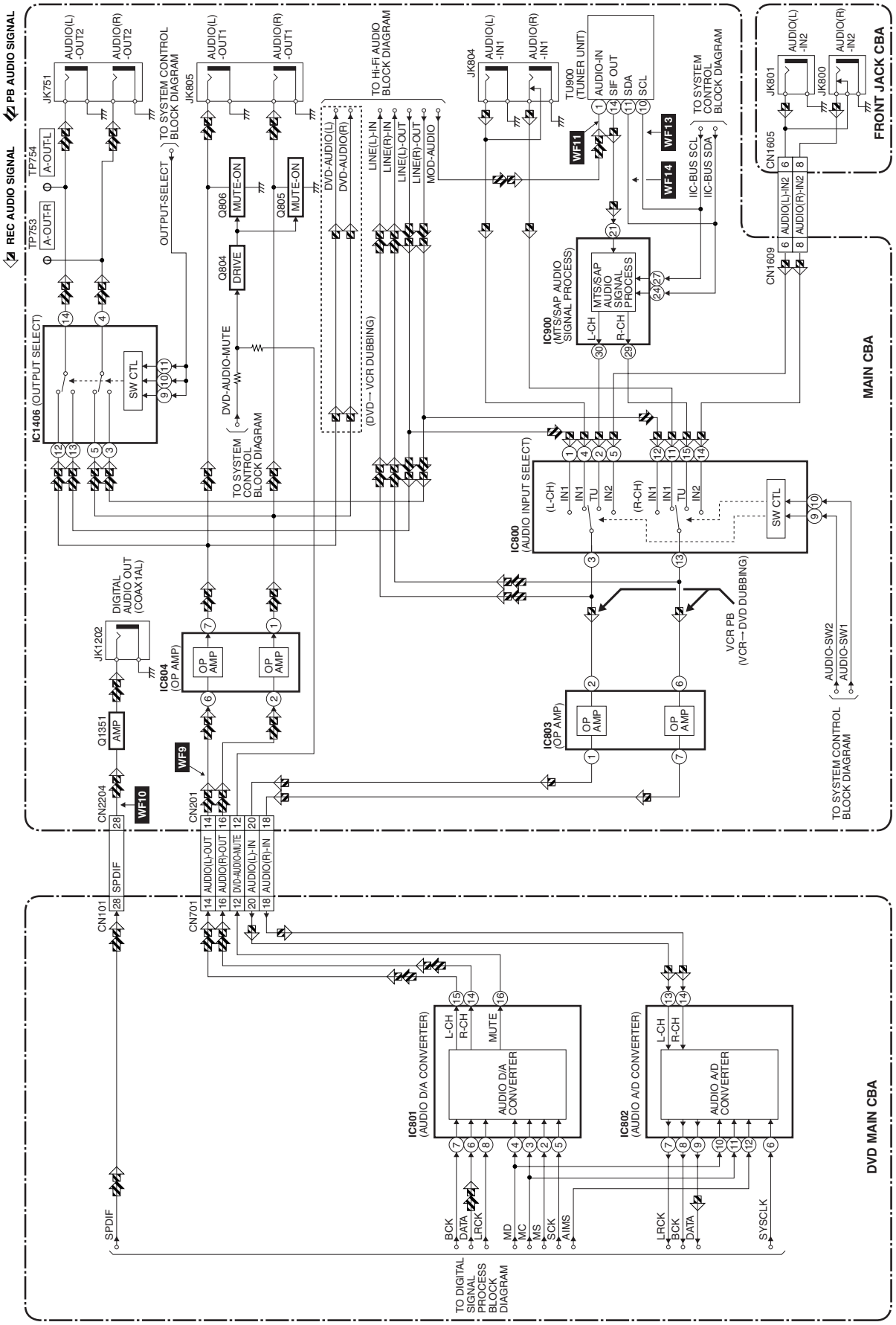
Video Output Select Block Diagram



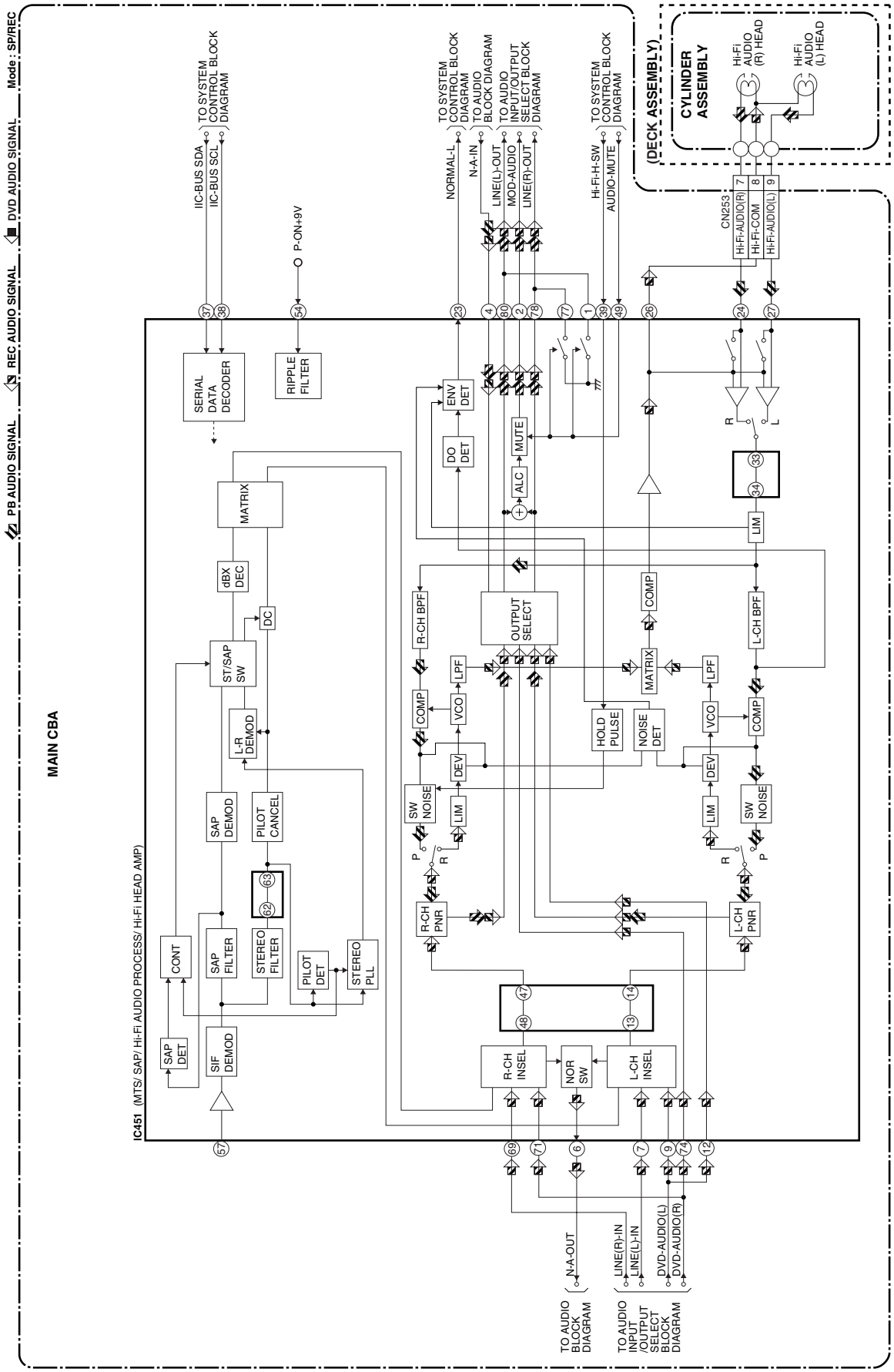
Audio Block Diagram



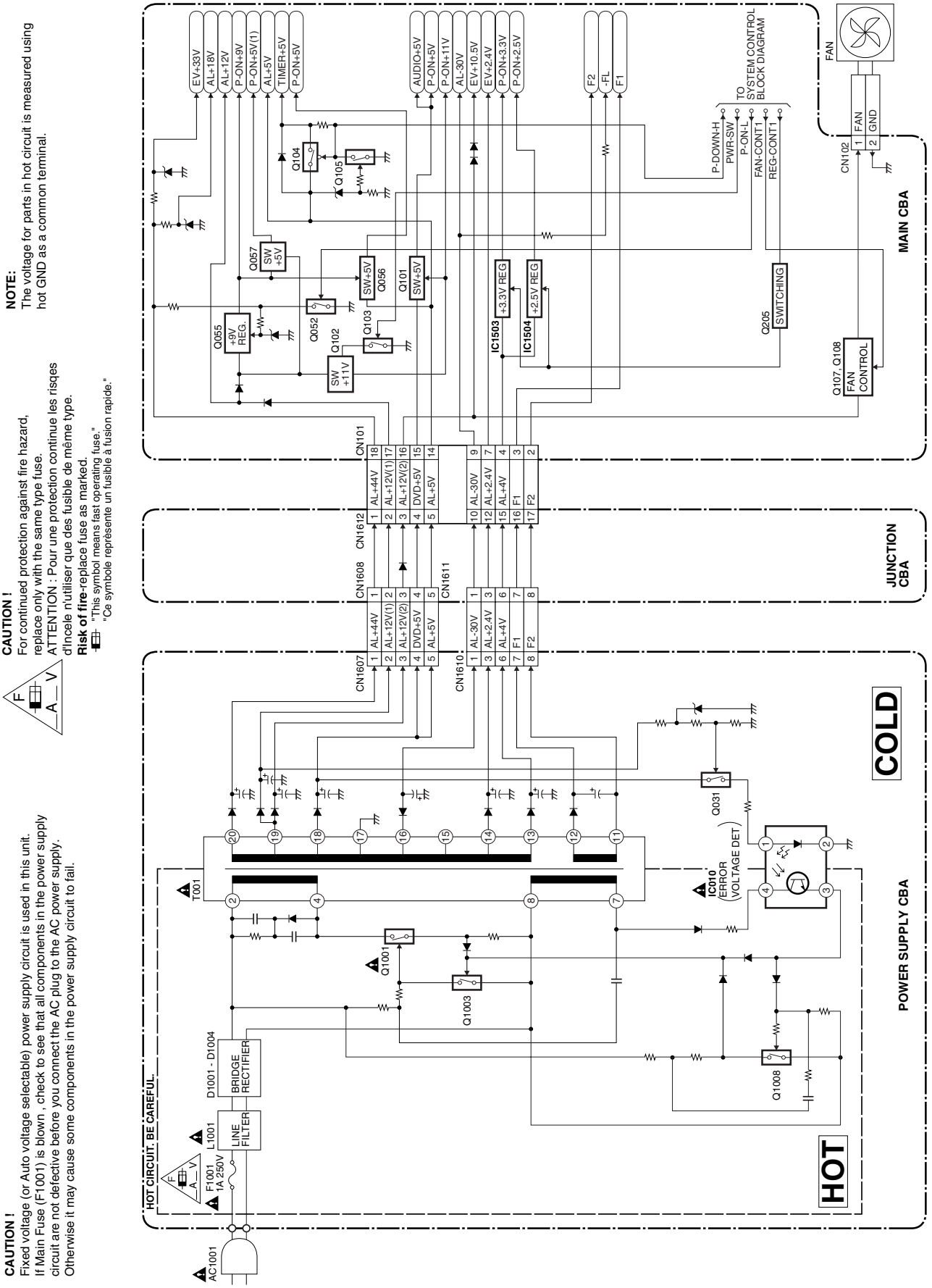
Audio Input/Output Select Block Diagram



Hi-Fi Audio Block Diagram



Power Supply Block Diagram



CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risques d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

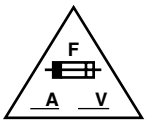
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

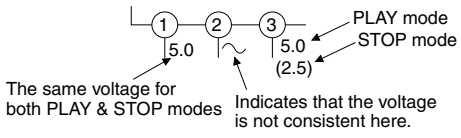
3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

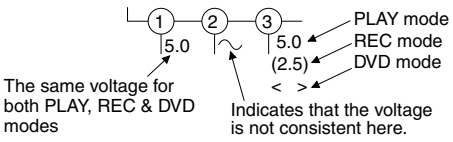
4. Mode: SP/REC

5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

< DVD Section >



< VCR Section >

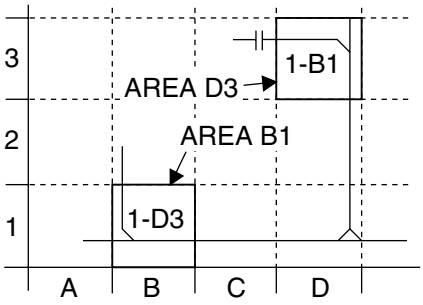


Unit: Volts

6. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



7. Test Point Information

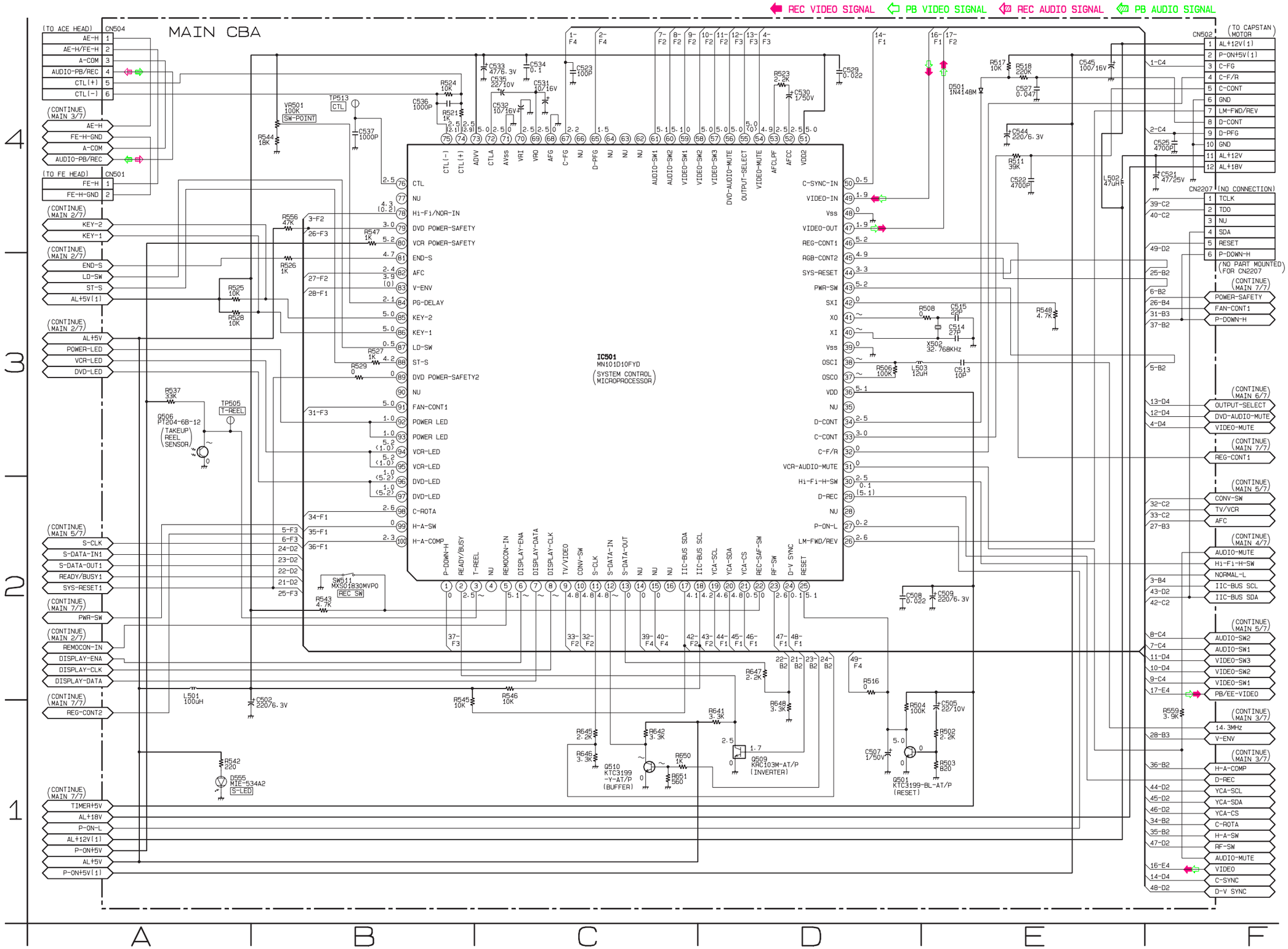
: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

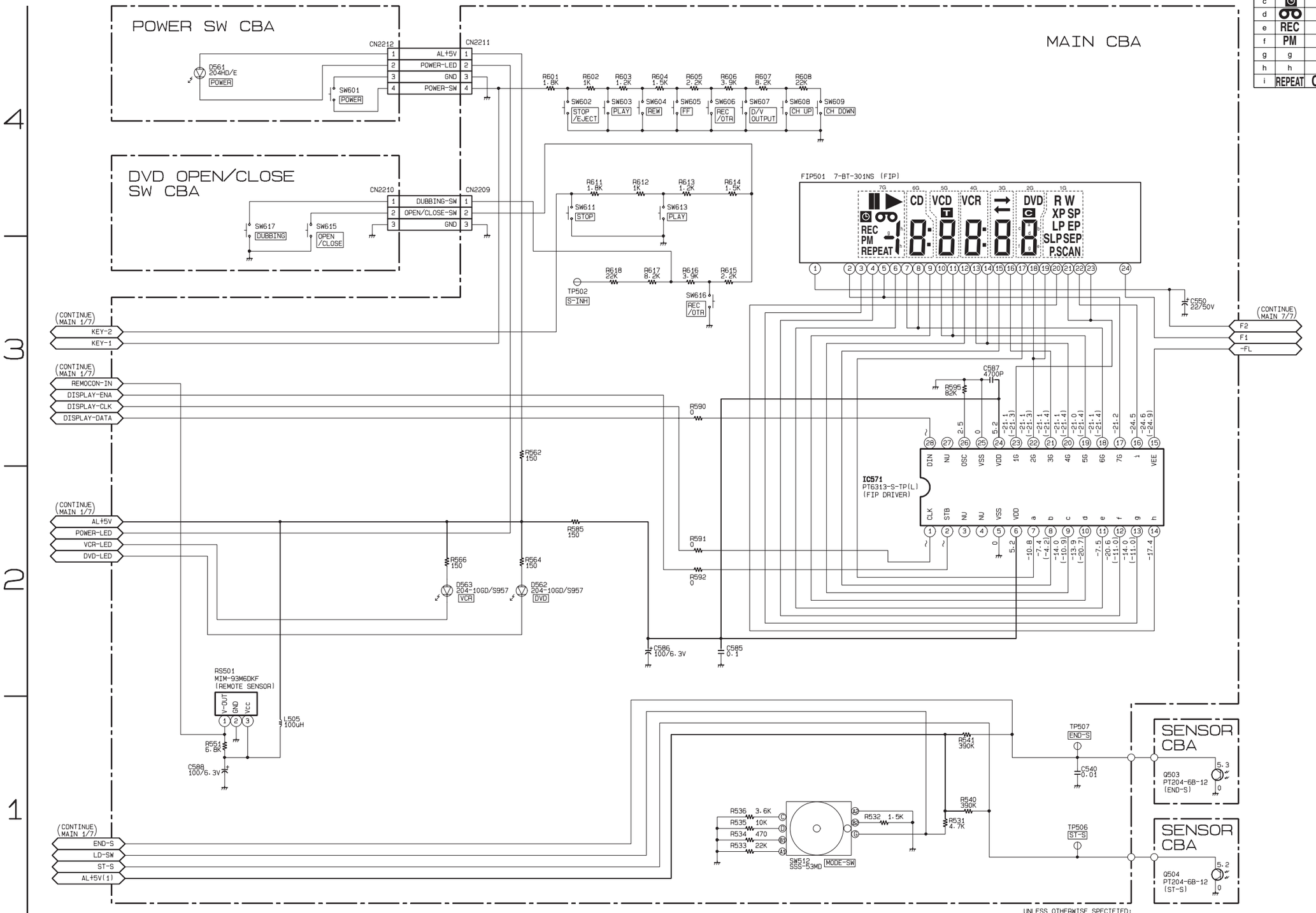
Main 1/7 Schematic Diagram < VCR Section >



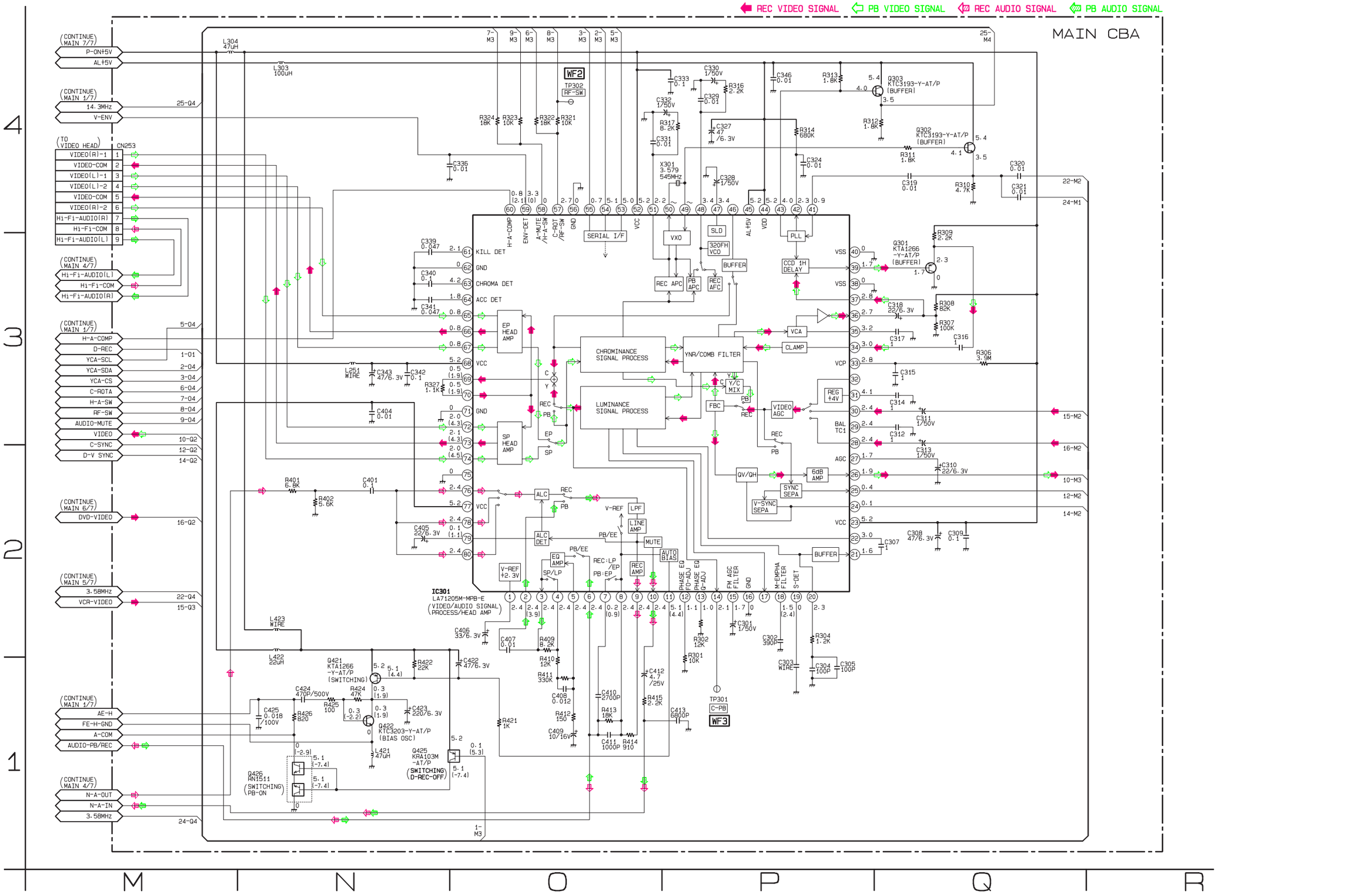
Main 2/7, Power SW, DVD Open/Close SW & Sensor Schematic Diagram < VCR Section >

FIP501 MATRIX CHART

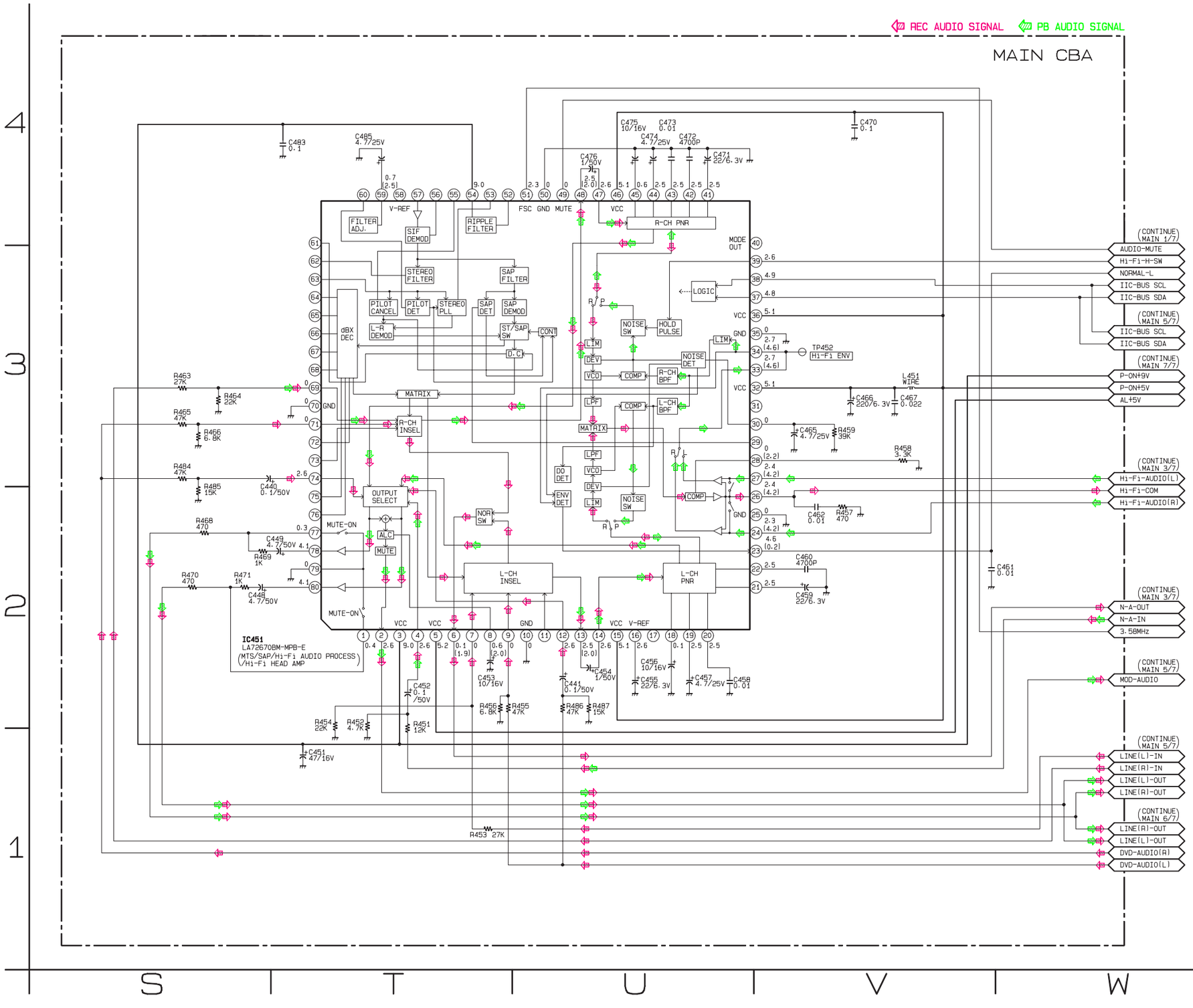
	7G	6G	5G	4G	3G	2G	1G
a	▶	a	a	a	a	a	XP
b	❚❚	b	b	b	b	b	SP
c	◷	c	c	c	c	c	LP
d	∞	d	d	d	d	d	EP
e	REC	e	e	e	e	e	SLP
f	PM	f	f	f	f	f	SEP
g	g	g	g	g	g	g	P.SCAN
h	h	:	T	:	⇄	C	W
i	REPEAT	CD	VCD	VCR	⇄	DVD	R



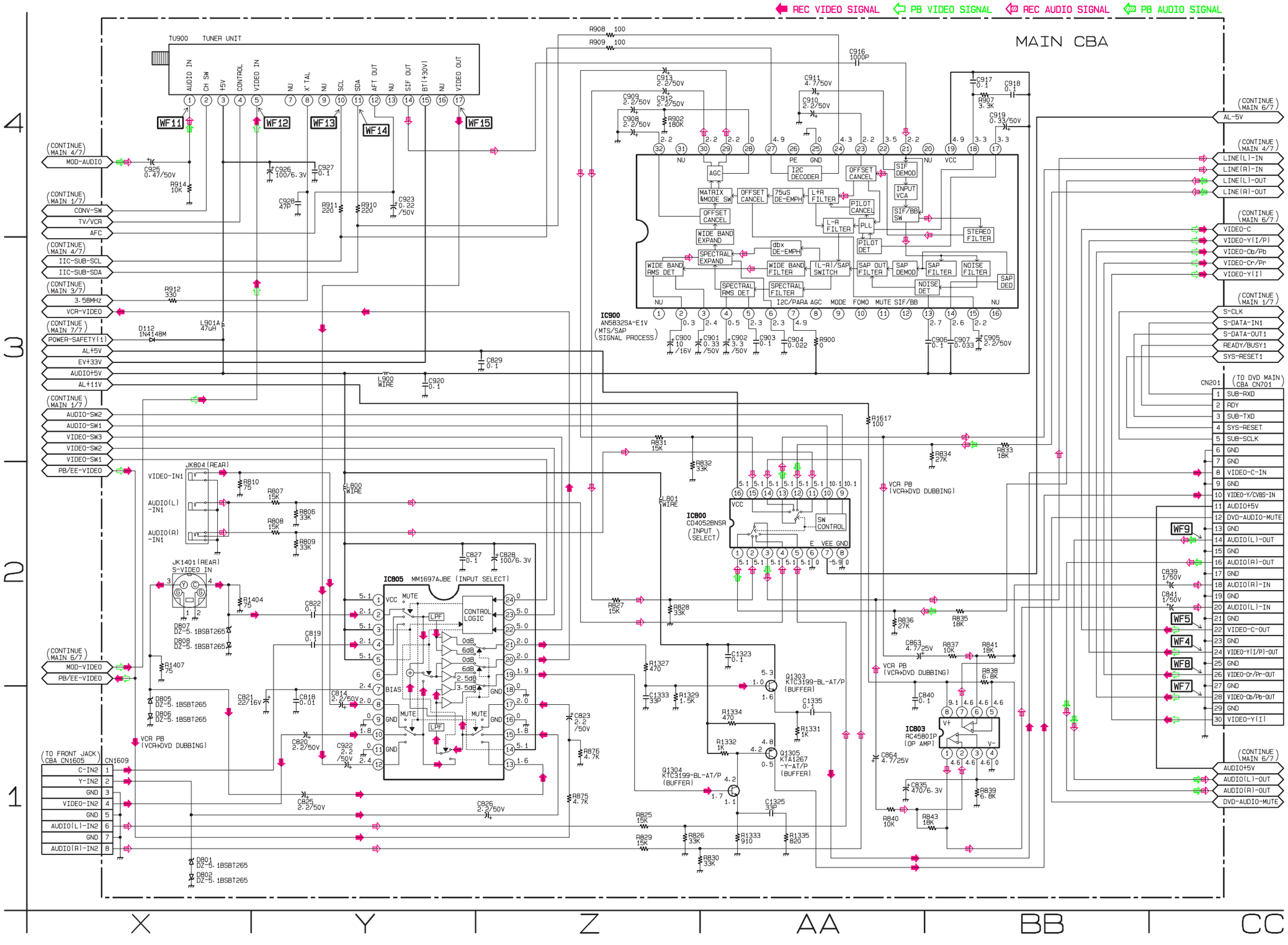
Main 3/7 Schematic Diagram < VCR Section >


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
MAIN CBA
IC301
LA71205M-MPB-E
(VIDEO/AUDIO SIGNAL PROCESS/HEAD AMP
SERIAL I/F
VXO
PLL
CCD 1H DELAY
BUFFER
REC APC
FB APC
REC AFC
CHROMINANCE SIGNAL PROCESS
LUMINANCE SIGNAL PROCESS
YNR/COMB FILTER
Y/C MIX
VCA
CLAMP
AGC
VIDEO AGC
6dB AMP
SYNC SEPA
V-SYNC SEPA
QV/QH
FBC
REG +4V
BAL TC1
EP HEAD AMP
SP HEAD AMP
ALC
ALC DET
LPF
LINE AMP
MUTE
AUTO BIAS
EQ AMP
REC AMP
V-REF +2.3V
Q301 KTA1266 -Y-AT/P (BUFFER)
Q302 KTC3193-Y-AT/P (BUFFER)
Q303 KTC3193-Y-AT/P (BUFFER)
Q421 KTA1266 -Y-AT/P (SWITCHING)
Q422 KTC3203-Y-AT/P (BIAS OSC)
Q425 KRA103M -AT/P (SWITCHING D-REC-OFF)
Q426 RN1511 (SWITCHING PB-ON)
X301 3.579 545MHz
TP302 RF-SW
TP301 C-PB
WF2
WF3
(CONTINUE MAIN 7/7)
P-ON+5V
AL+5V
(CONTINUE MAIN 1/7)
14.3MHz
V-ENV
(TO VIDEO HEAD) CN253
VIDEO(R)-1
VIDEO-COM
VIDEO(L)-1
VIDEO(L)-2
VIDEO-COM
VIDEO(R)-2
Hi-Fi-AUDIO(R)
Hi-Fi-COM
Hi-Fi-AUDIO(L)
(CONTINUE MAIN 4/7)
Hi-Fi-AUDIO(L)
Hi-Fi-COM
Hi-Fi-AUDIO(R)
(CONTINUE MAIN 1/7)
H-A-COMP
D-REC
YCA-SCL
YCA-SDA
YCA-CS
C-ROTA
H-A-SW
RF-SW
AUDIO-MUTE
VIDEO
C-SYNC
D-V SYNC
(CONTINUE MAIN 6/7)
DVD-VIDEO
(CONTINUE MAIN 5/7)
3.58MHz
VCR-VIDEO
(CONTINUE MAIN 1/7)
AE-H
FE-H-GND
A-COM
AUDIO-PB/REC
(CONTINUE MAIN 4/7)
N-A-OUT
N-A-IN
3.58MHz
KILL DET
GND
CHROMA DET
ACC DET
VCC
GND
REC
PB
EP
SP
ALC
REC
PB
V-REF
LPF
LINE AMP
PB/EE
MUTE
AUTO BIAS
EQ AMP
REC AMP
REC:LP /EP
PB:EP
SP/LP
PHASE EQ FD-ADJ
PHASE EQ G-ADJ
FM AGC FILTER
GND
M-EMPHA FILTER
S-DET
H-A-COMP
ENV-DET
A-MUTE /H-SW
C-ROT /RF-SW
GND
VCC
SLD
320FH VCO
AL+5V
VDD
VSS
VSS
VCP
REC
PB
REC
PB
REC
PB
EP
SP
C
Y
C
Y
REC
PB
REC
PB
REC
PB
EP
SP
V-REF +2.3V
REC
PB
REC
PB
REC
PB

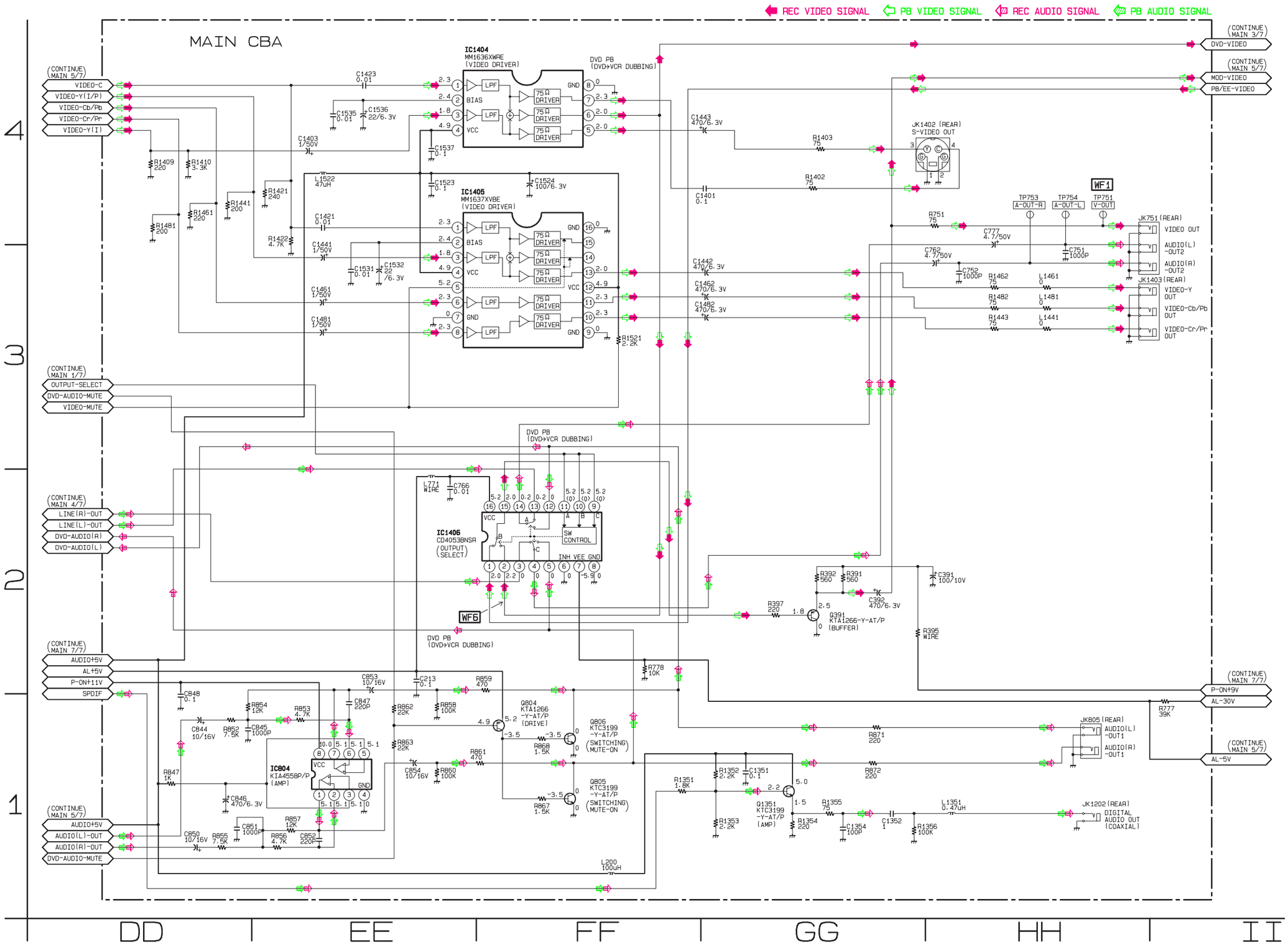
Main 4/7 Schematic Diagram < VCR Section >



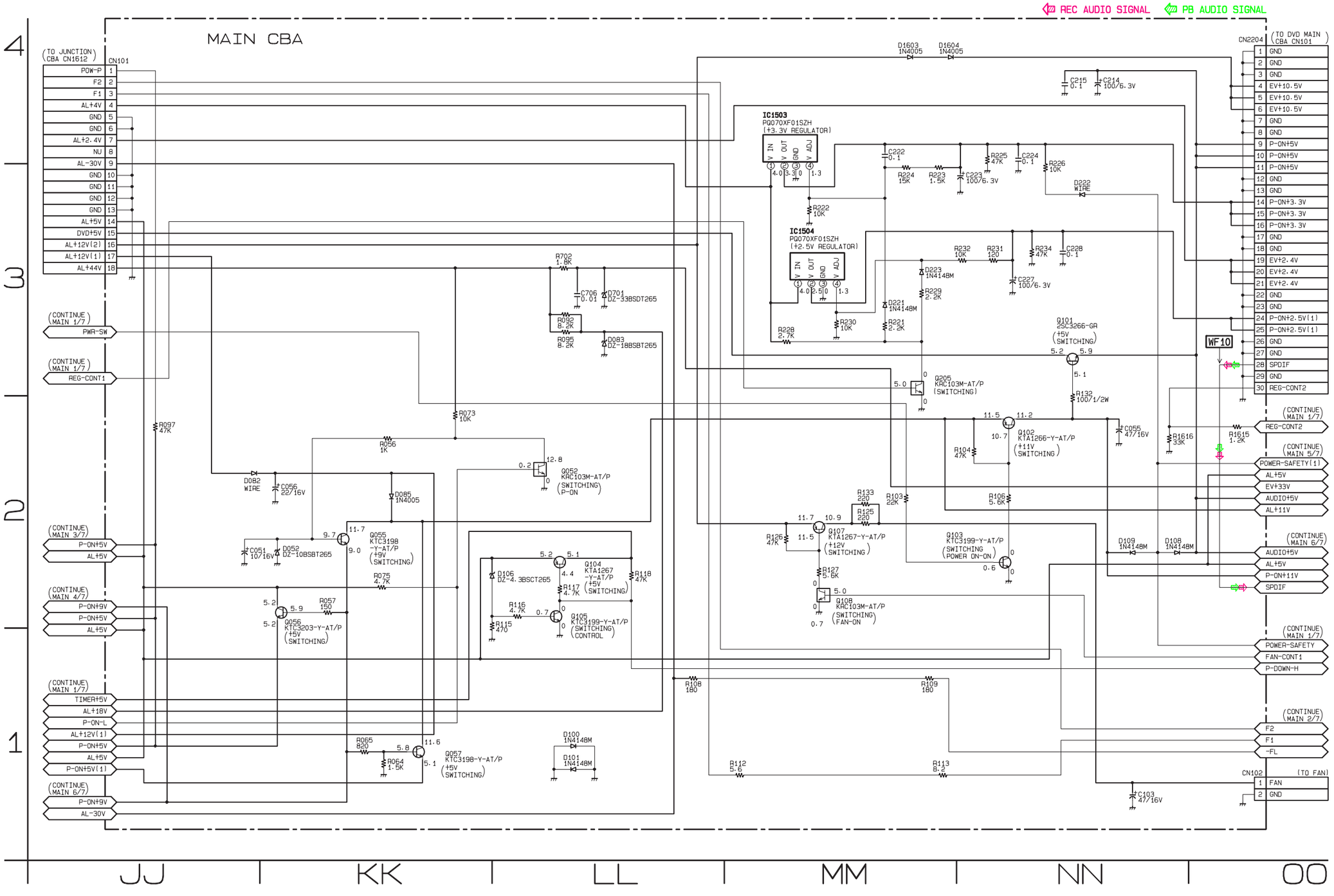
Main 5/7 Schematic Diagram < VCR Section >



Main 6/7 Schematic Diagram < VCR Section >



Main 7/7 Schematic Diagram < VCR Section >

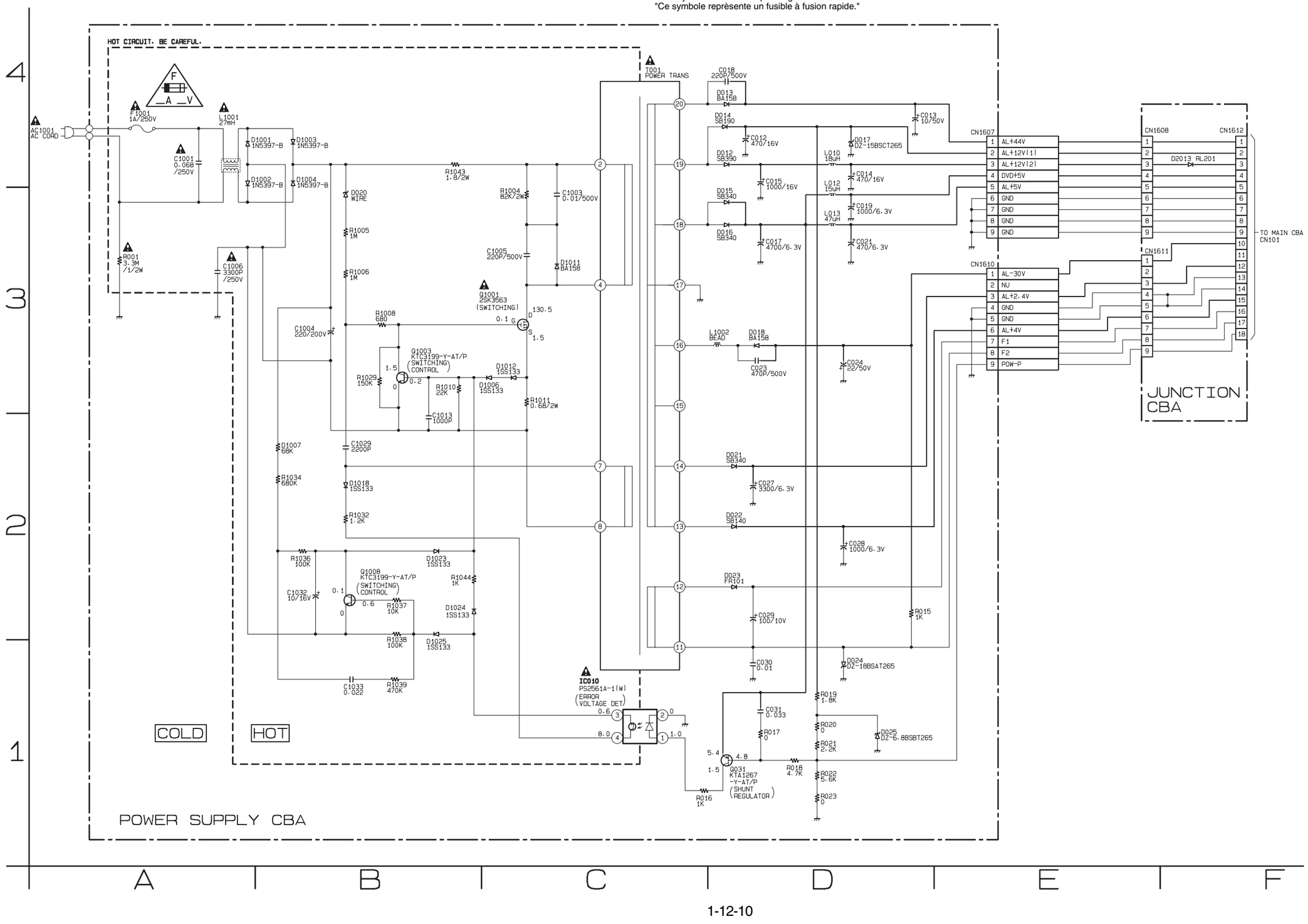


Power Supply & Junction Schematic Diagram < VCR Section >

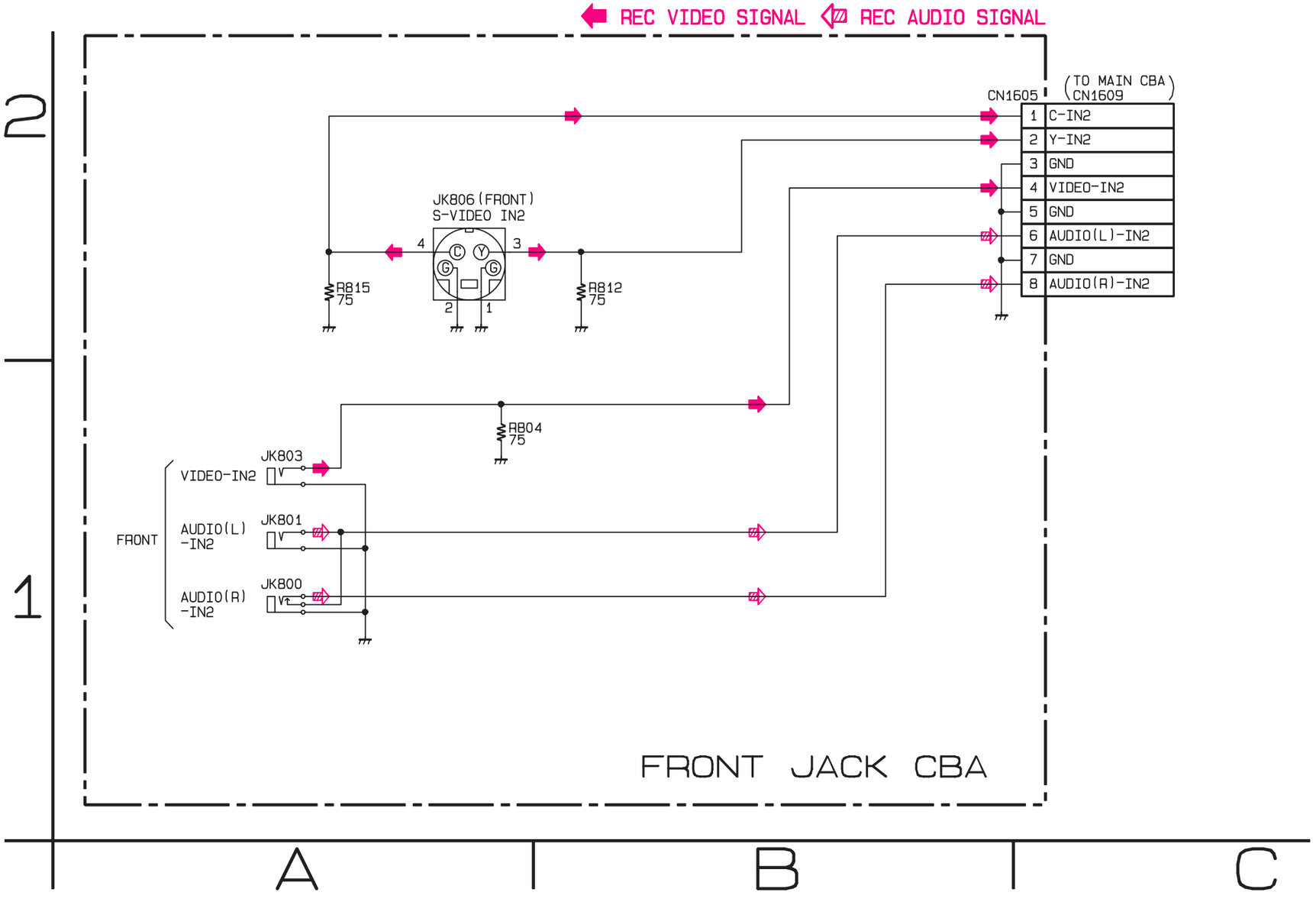
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

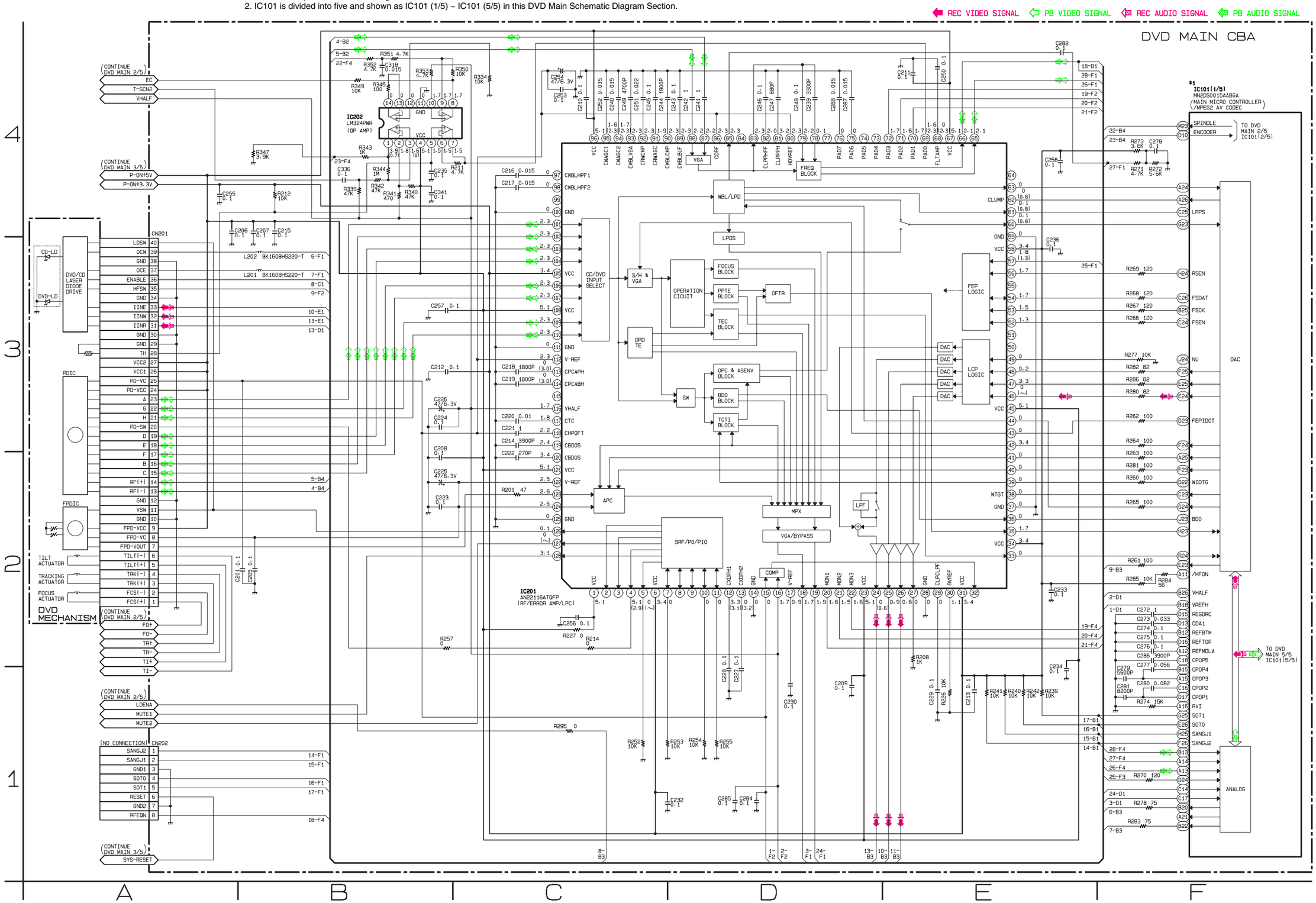


Front Jack Schematic Diagram < VCR Section >



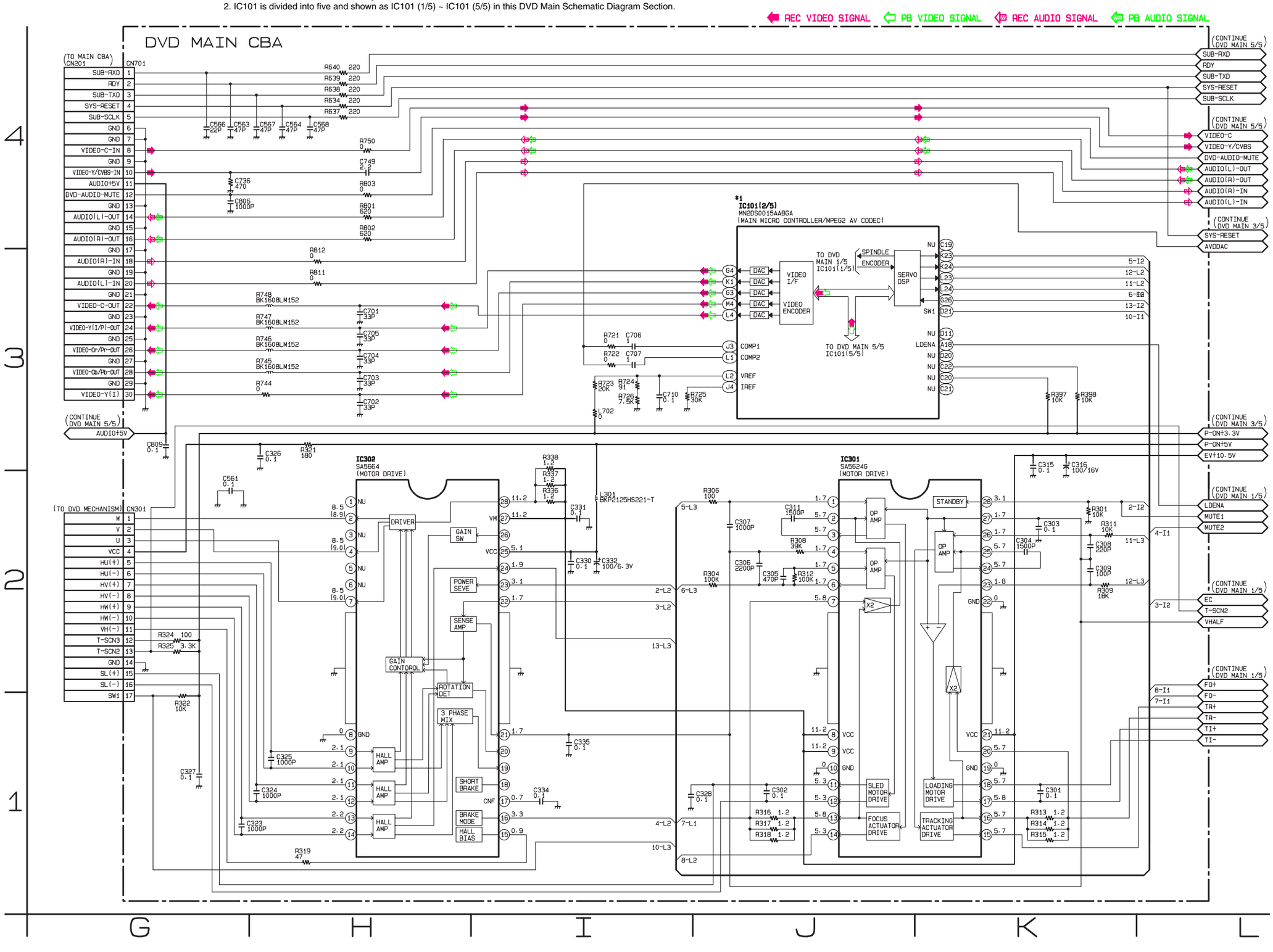
DVD Main 1/5 Schematic Diagram < DVD Section >

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC101.
2. IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD Main Schematic Diagram Section.



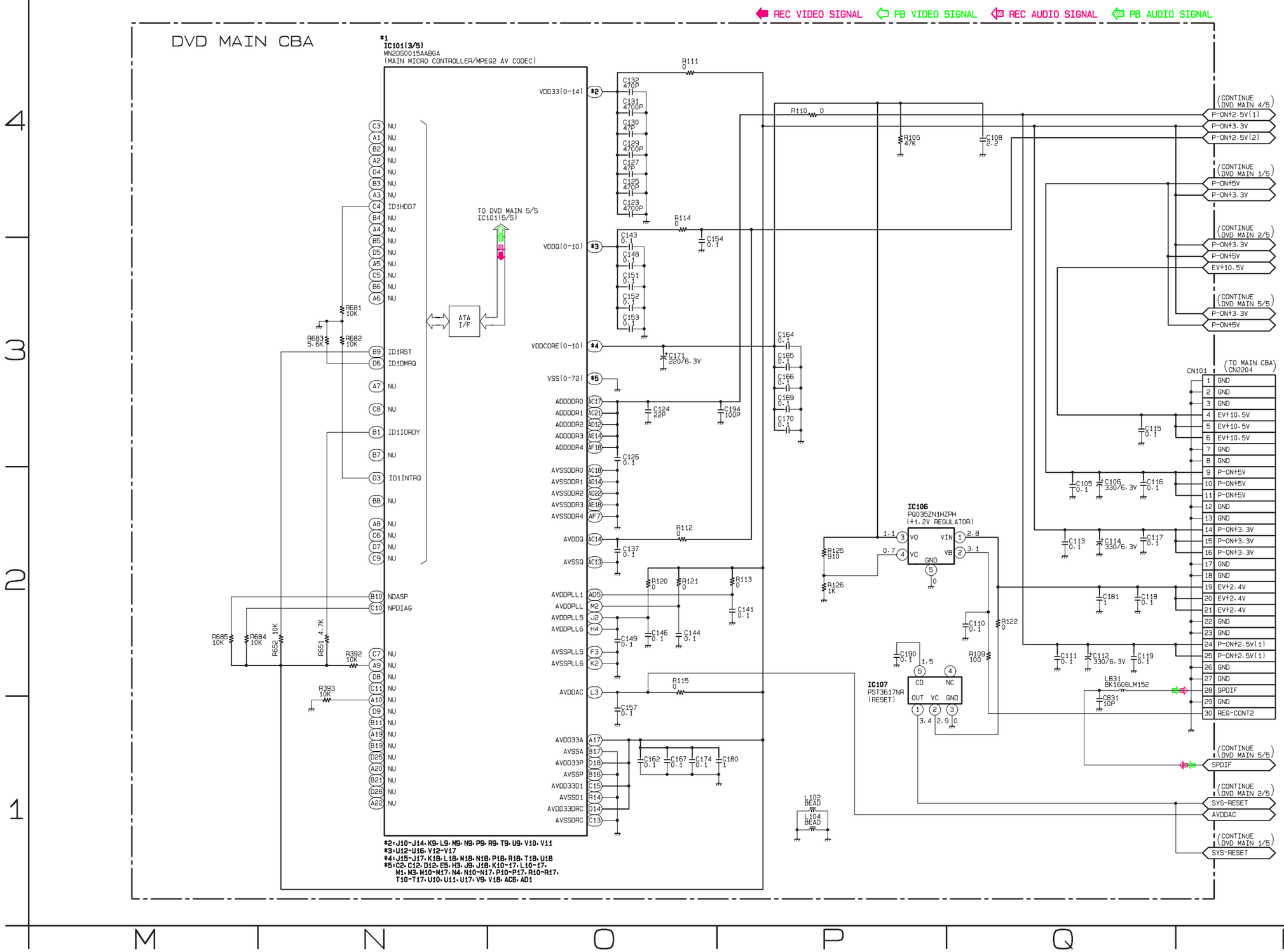
DVD Main 2/5 Schematic Diagram < DVD Section >

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC101.
2. IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD Main Schematic Diagram Section.



DVD Main 3/5 Schematic Diagram < DVD Section >

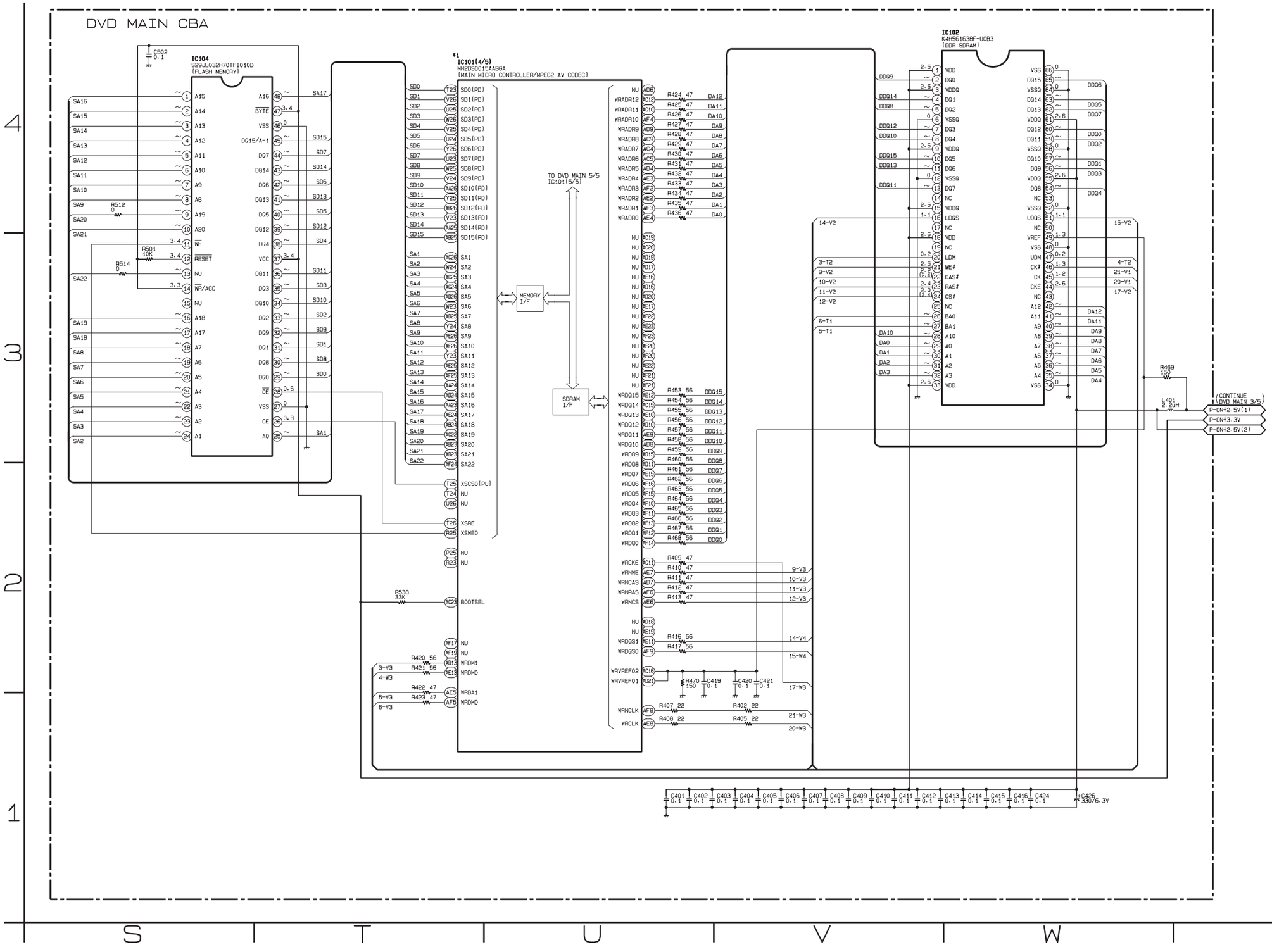
NOTE:
1. The order of pins shown in this diagram is different from that of actual IC101.
2. IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD Main Schematic Diagram Section.



E9A10SCD3

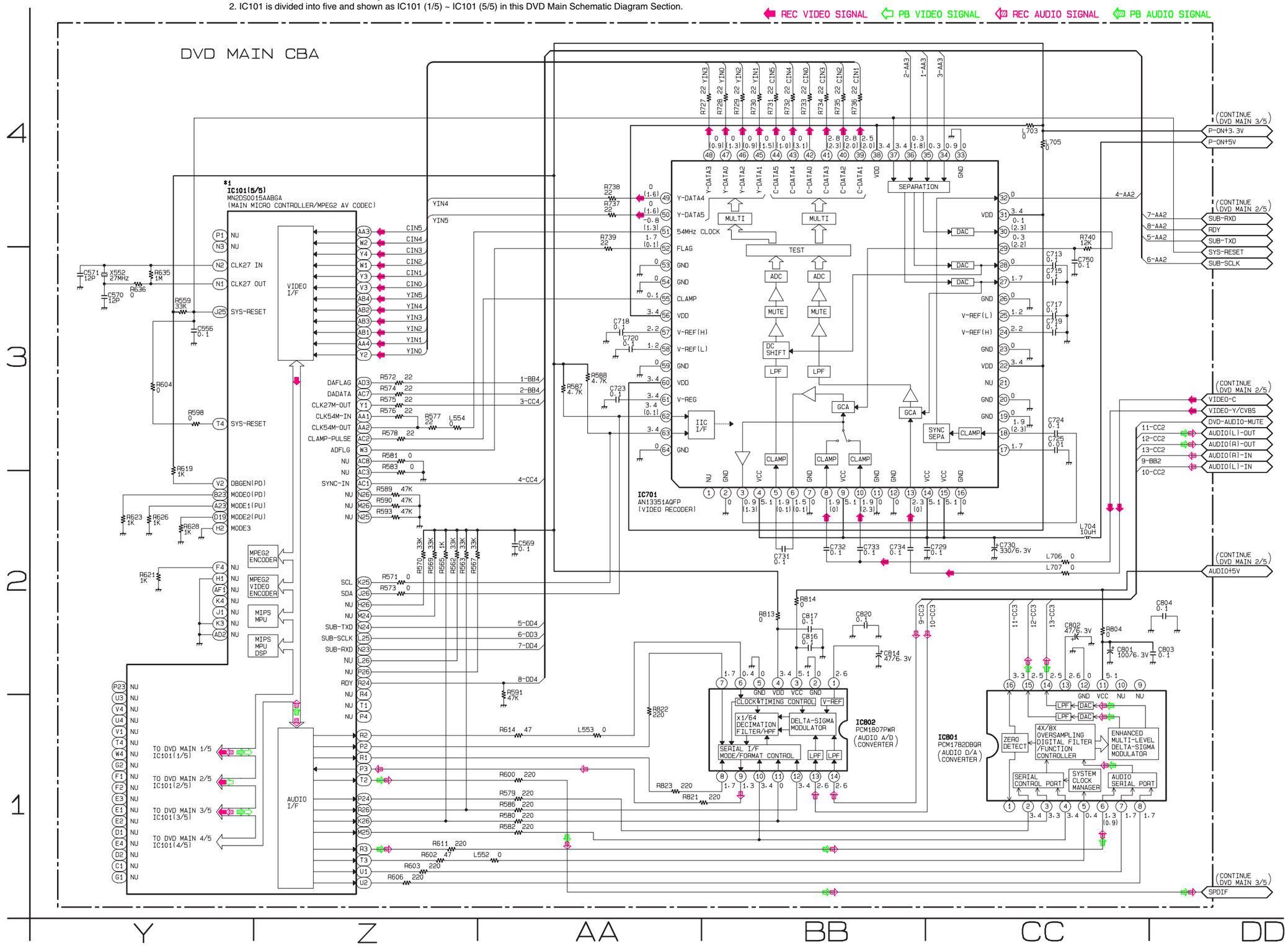
DVD Main 4/5 Schematic Diagram < DVD Section >

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC101.
2. IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD Main Schematic Diagram Section.

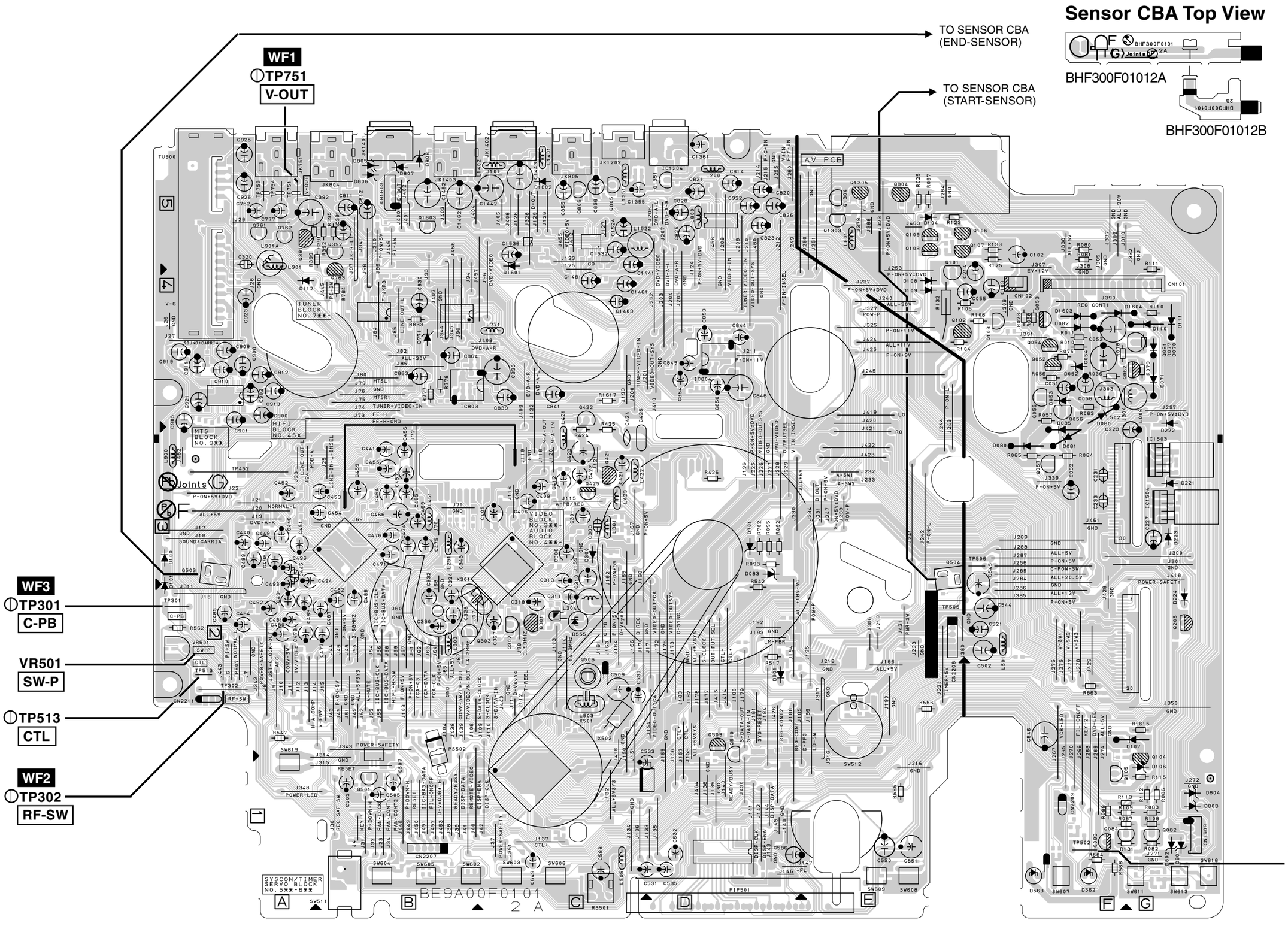


DVD Main 5/5 Schematic Diagram < DVD Section >

NOTE:
1. The order of pins shown in this diagram is different from that of actual IC101.
2. IC101 is divided into five and shown as IC101 (1/5) ~ IC101 (5/5) in this DVD Main Schematic Diagram Section.



Main CBA Top View

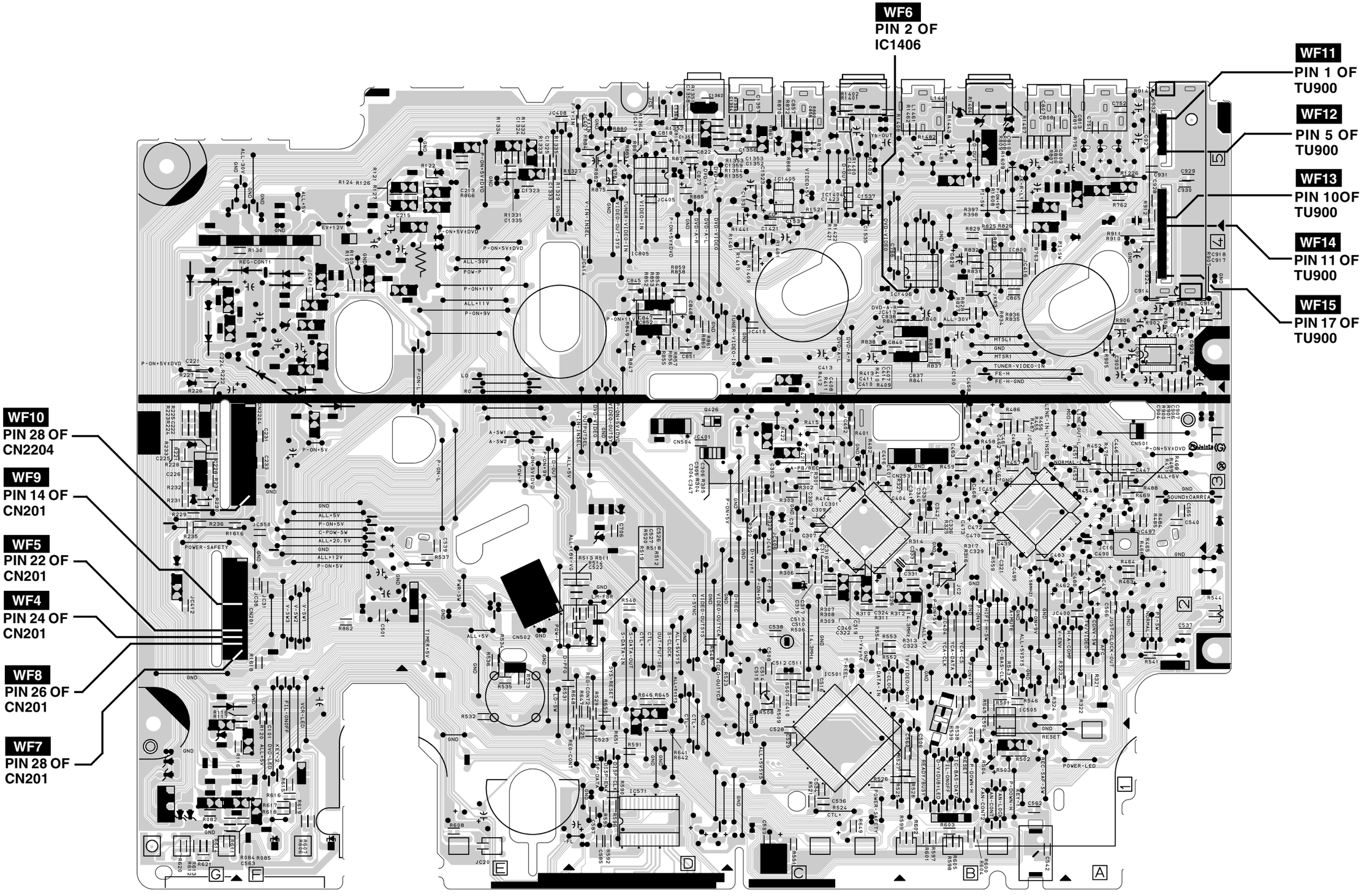


Sensor CBA Top View

BHF300F01012A

BHF300F01012B

Main CBA Bottom View



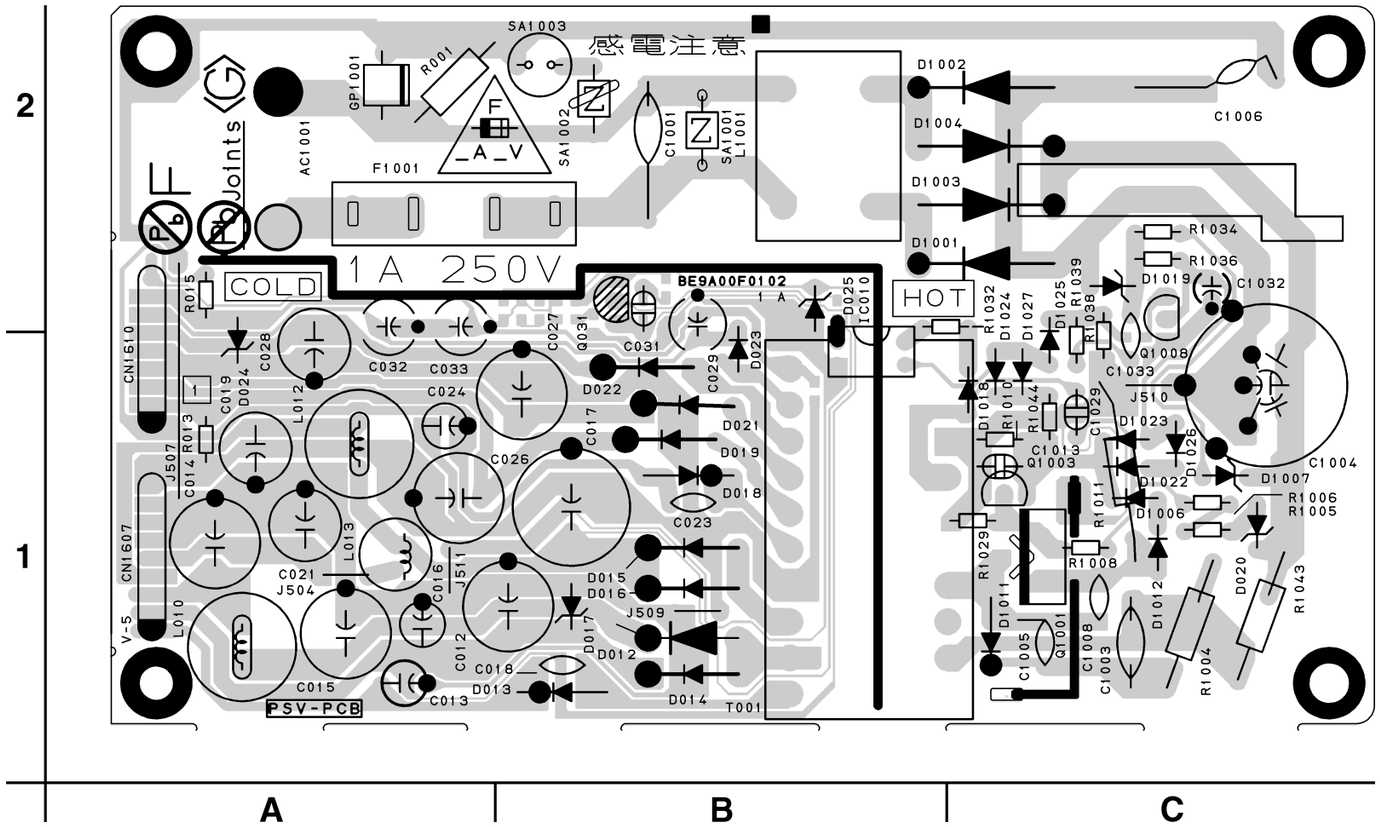
Power Supply CBA Top View

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

Because a hot chassis ground is present in the power supply circut, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

NOTE:
The voltage for parts in hot circuit is measured using
hot GND as a common terminal.



Power Supply CBA Bottom View

CAUTION !
For continued protection against fire hazard,
replace only with the same type fuse.
ATTENTION : Pour une protection continue les risqes
d'Incele n'utiliser que des fusible de même type.
Risk of fire-replace fuse as marked.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
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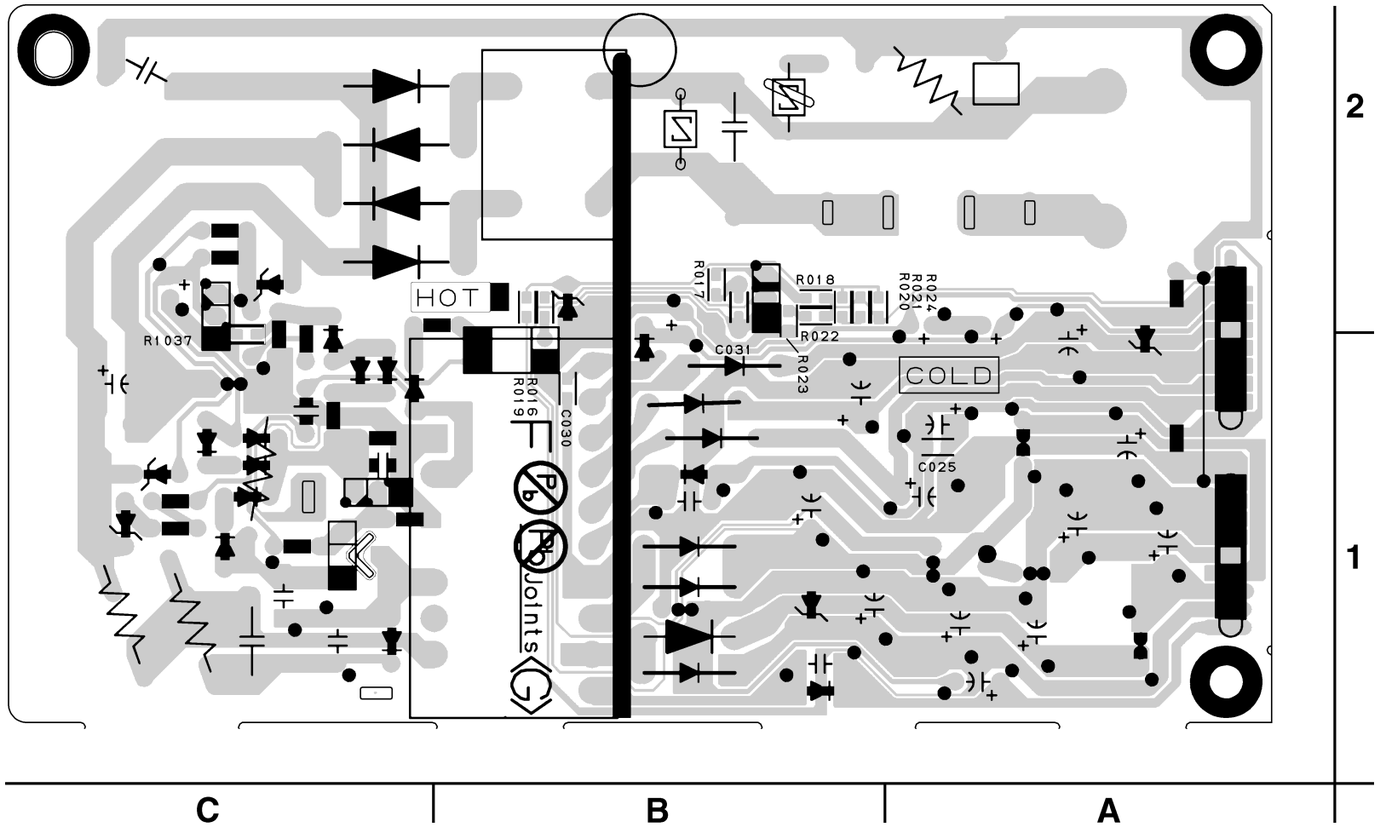
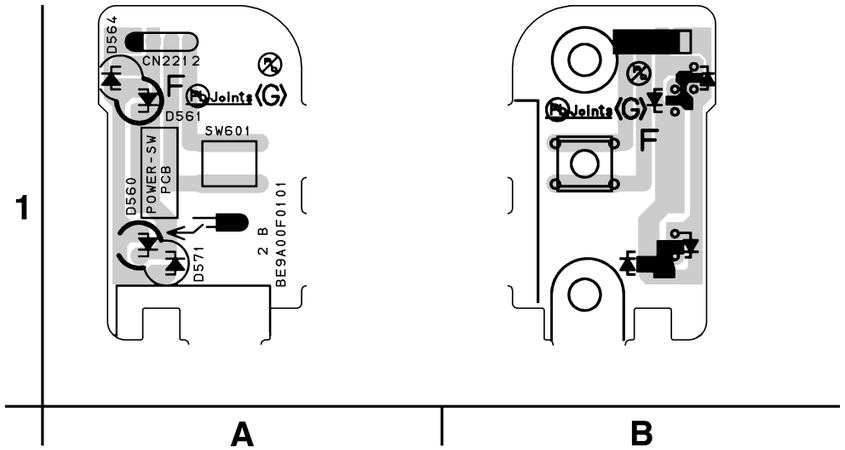
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Power SW CBA Top View

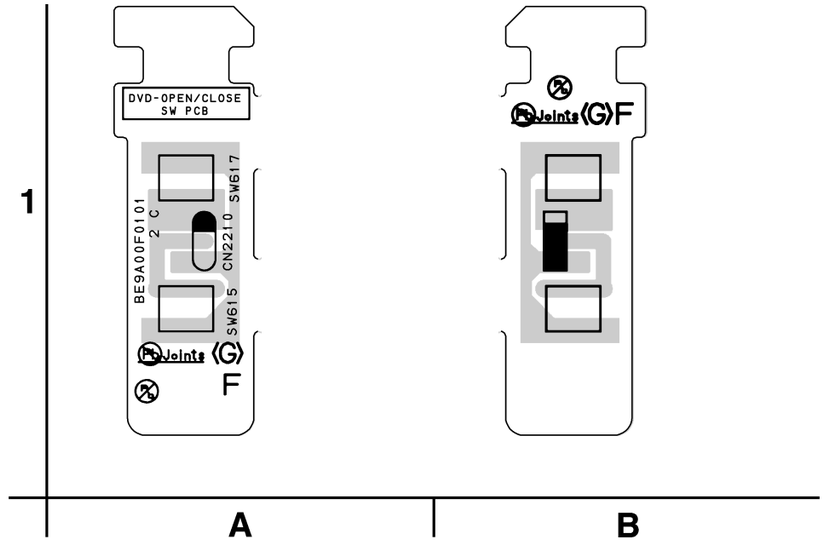
Power SW CBA Bottom View



BE9A00F01012B

DVD Open/Close SW CBA Top View

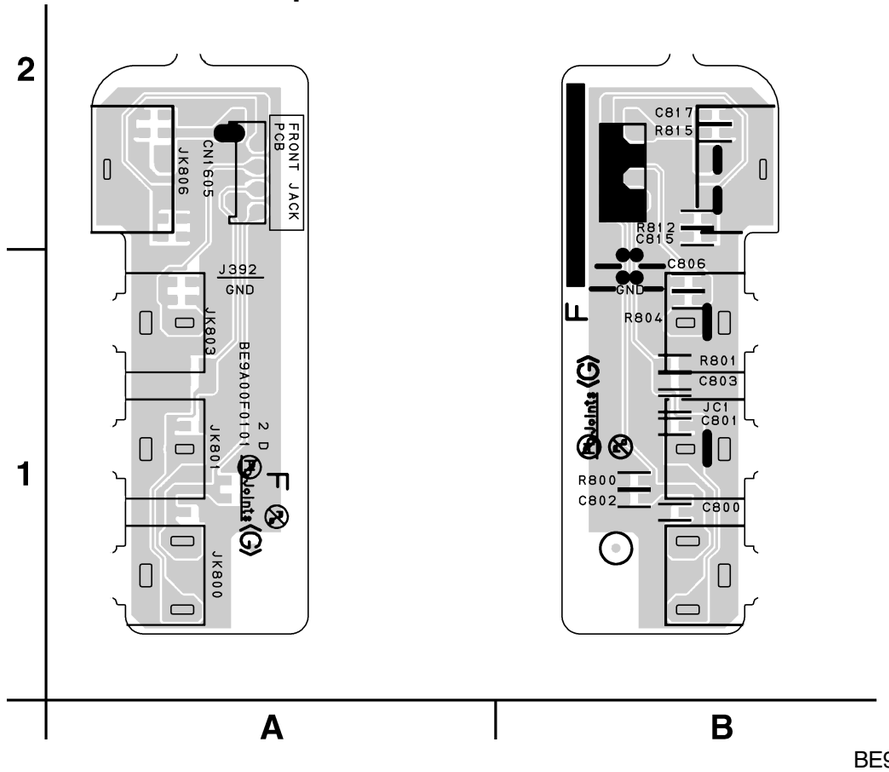
DVD Open/Close SW CBA Bottom View



BE9A00F01012C

Front Jack CBA Top View

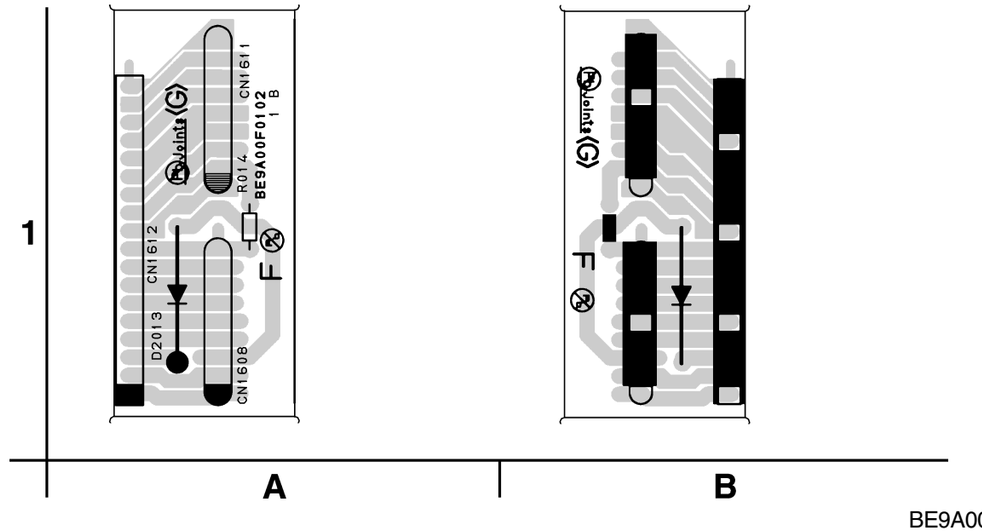
Front Jack CBA Bottom View



BE9A00F01012D

Junction CBA Top View

Junction CBA Bottom View

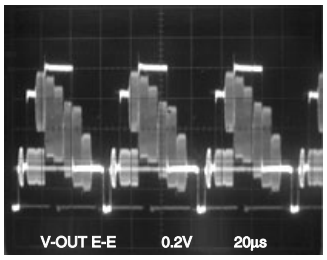


BE9A00F01021B

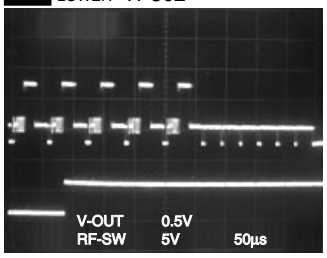
WAVEFORMS

NOTE:
Input: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)

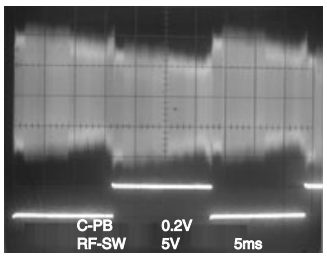
WF1 TP751



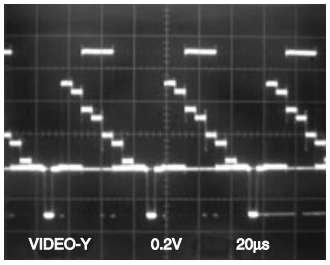
WF1 UPPER TP751
WF2 LOWER TP302



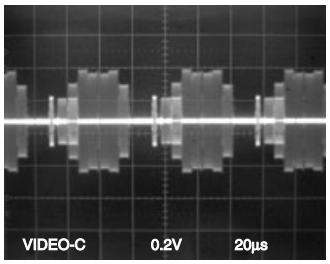
WF3 UPPER TP301
WF2 LOWER TP302



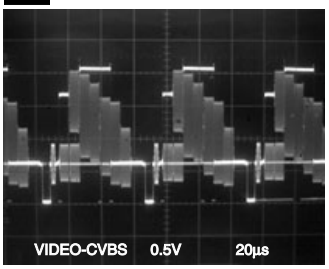
WF4 Pin 24 of CN201



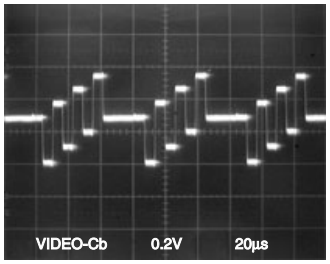
WF5 Pin 22 of CN201



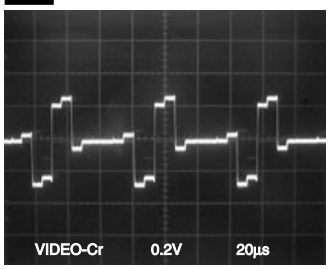
WF6 Pin 2 of IC1406



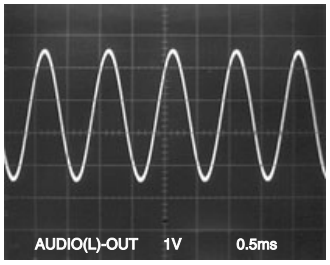
WF7 Pin 28 of CN201



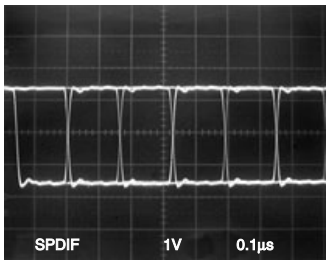
WF8 Pin 26 of CN201



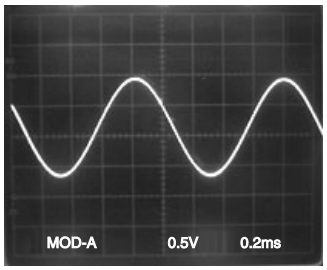
WF9 Pin 14 of CN201



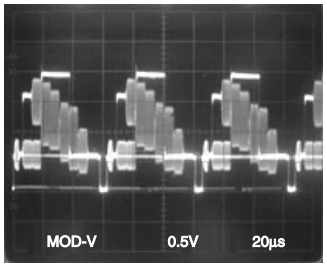
WF10 Pin 28 of CN2204



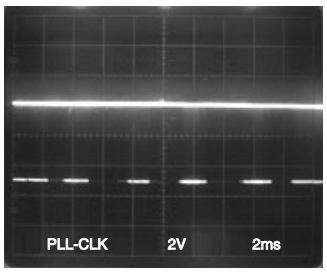
WF11 Pin 1 of TU900



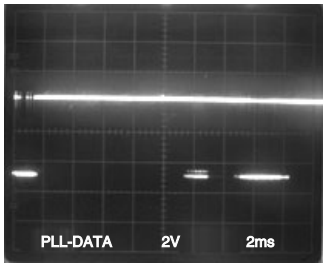
WF12 Pin 5 of TU900



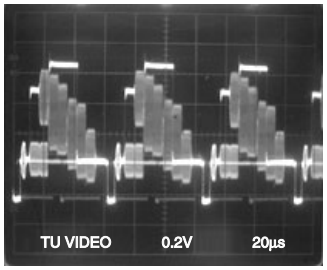
WF13 Pin 10 of TU900



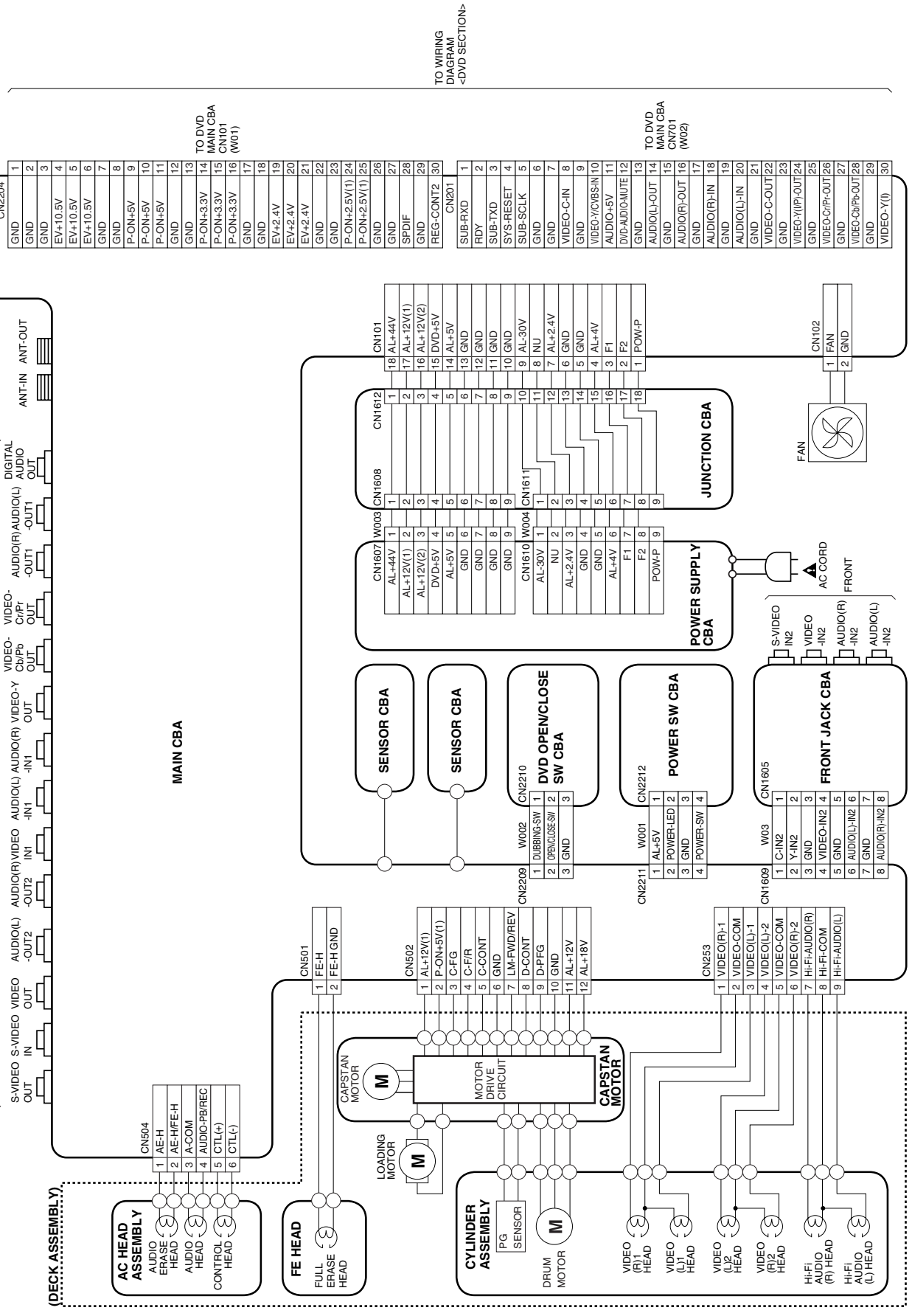
WF14 Pin 11 of TU900



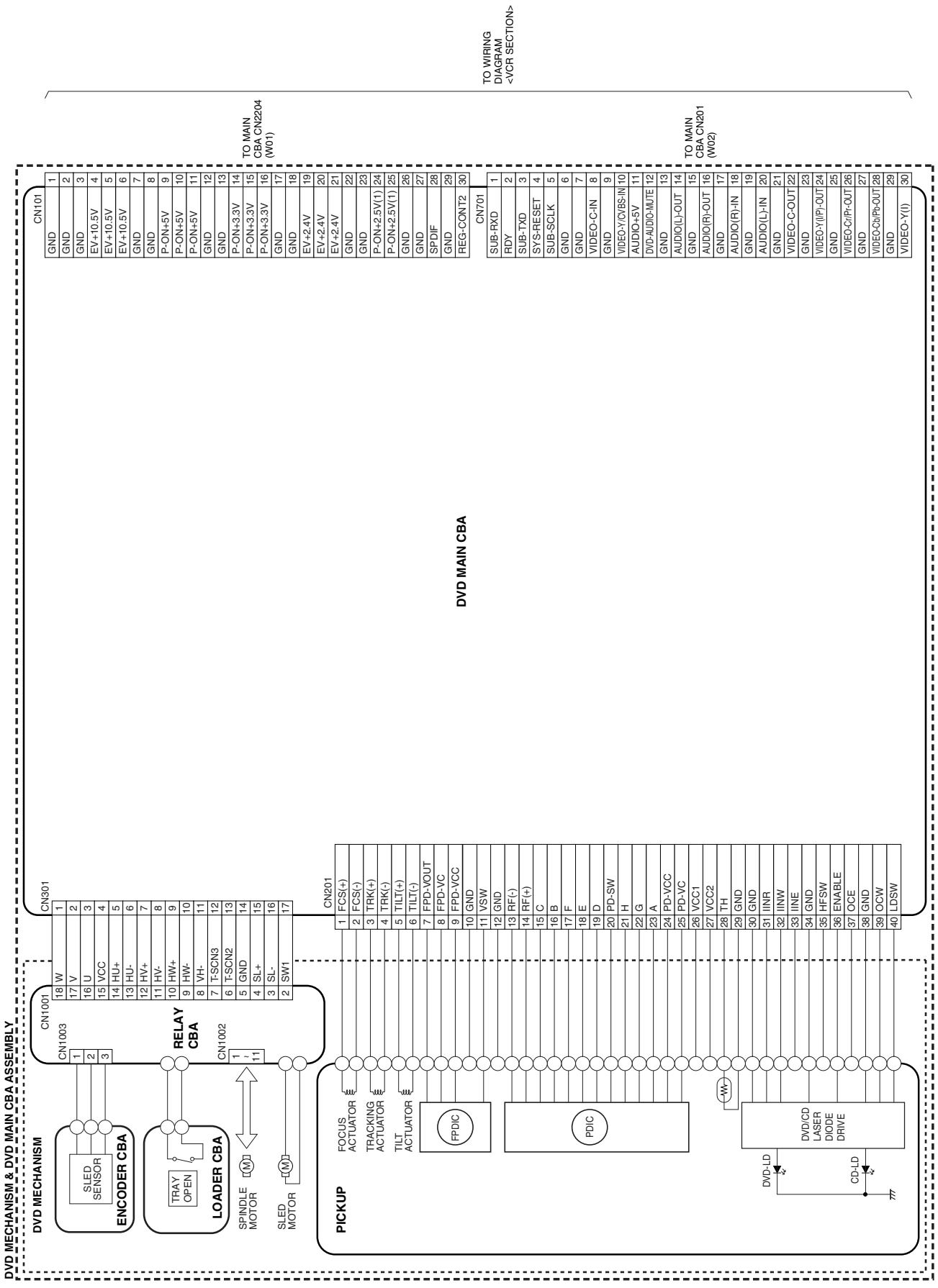
WF15 Pin 17 of TU900



WIRING DIAGRAM < VCR SECTION >



WIRING DIAGRAM < DVD SECTION >



SYSTEM CONTROL TIMING CHARTS

< VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

Note:

Note: EJ → RS: Loading FWD (LM-FWD / REV “H”)
RS → EJ: Loading REV (LM-FWD / REV “L”)
Stop (A) = Loading
Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Still/Slow Control Frame Advance Timing Chart

1) SP Mode

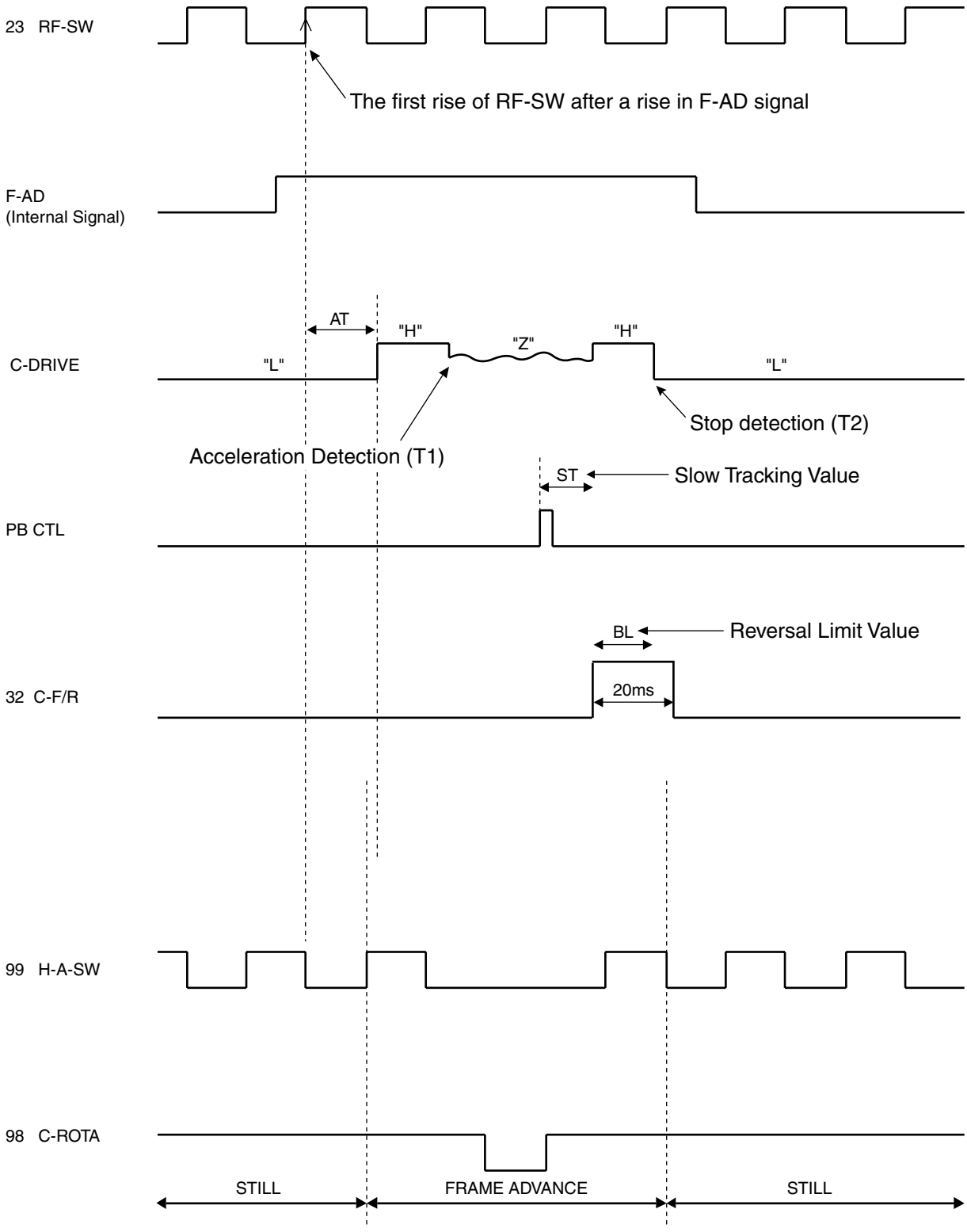


Fig. 1

2) LP/SLP Mode

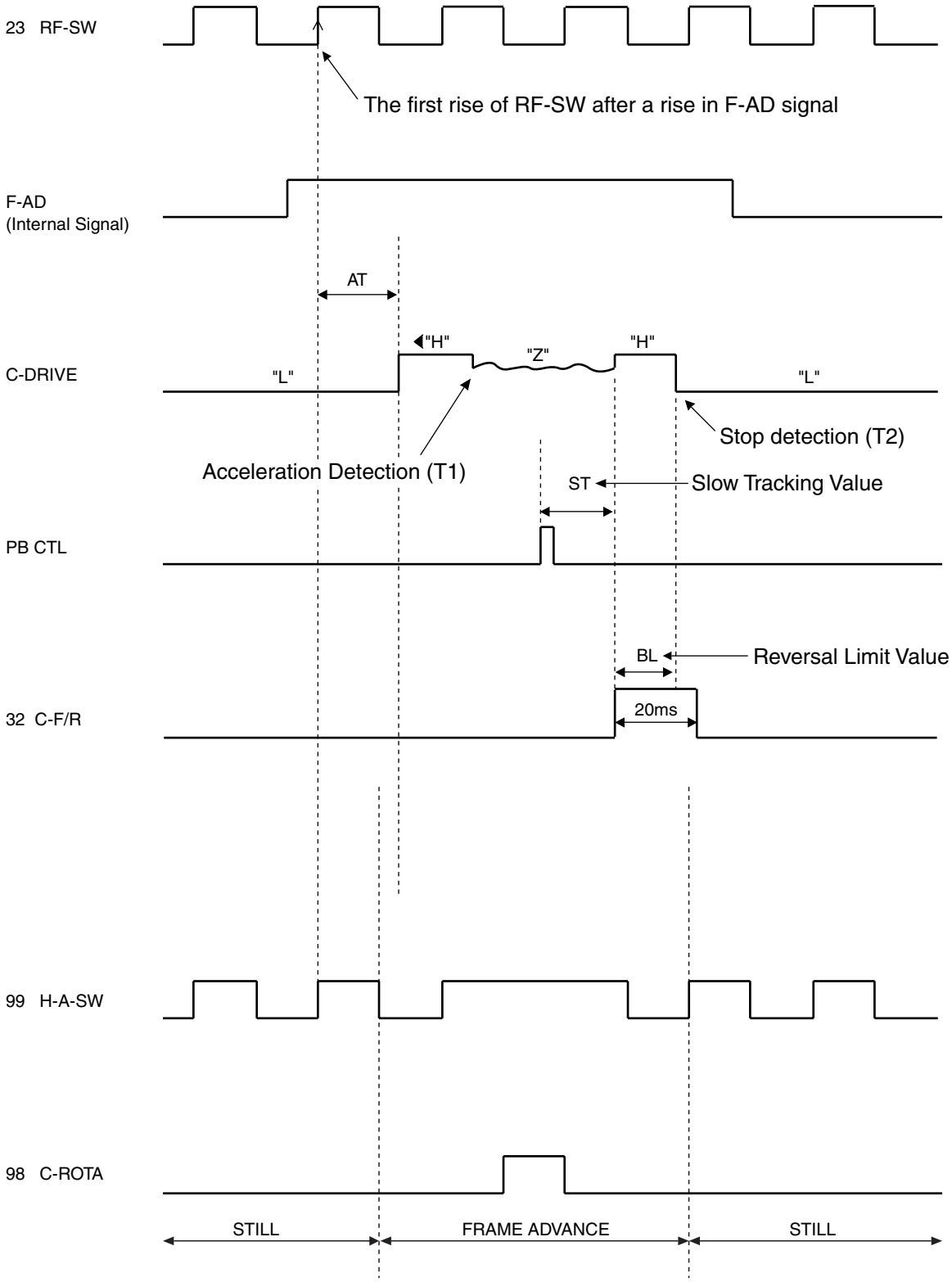


Fig. 2

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)

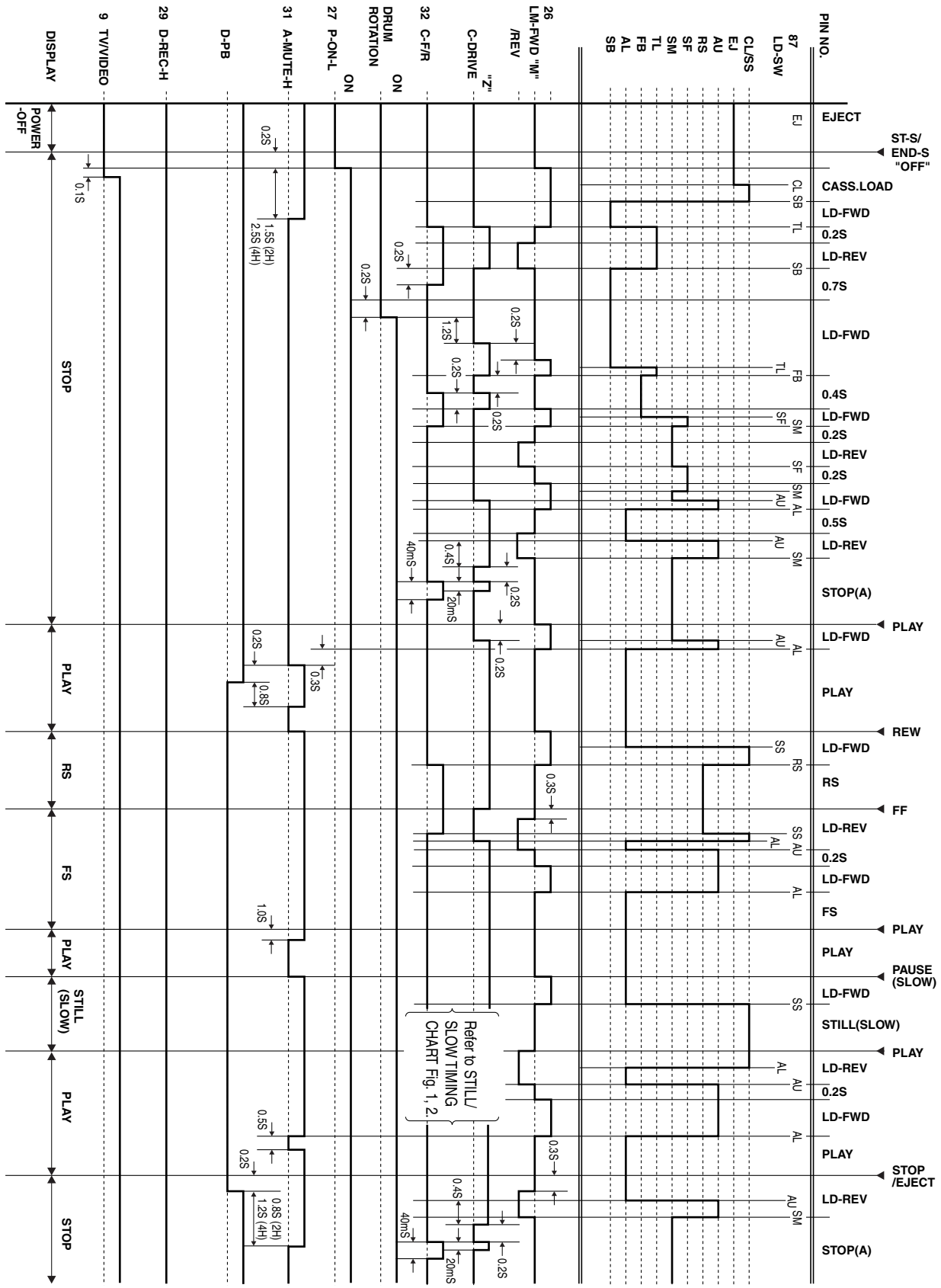


Fig. 3

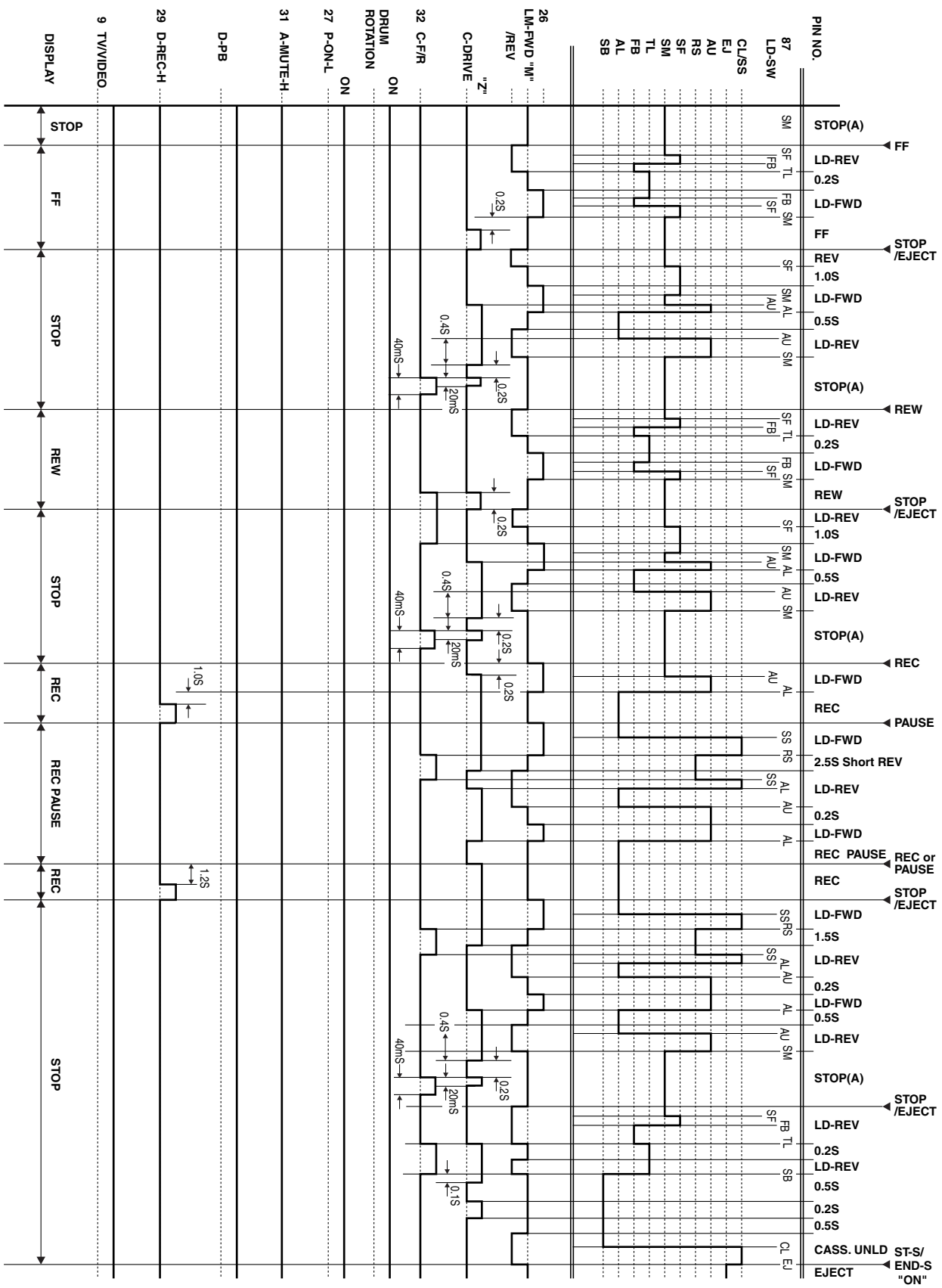
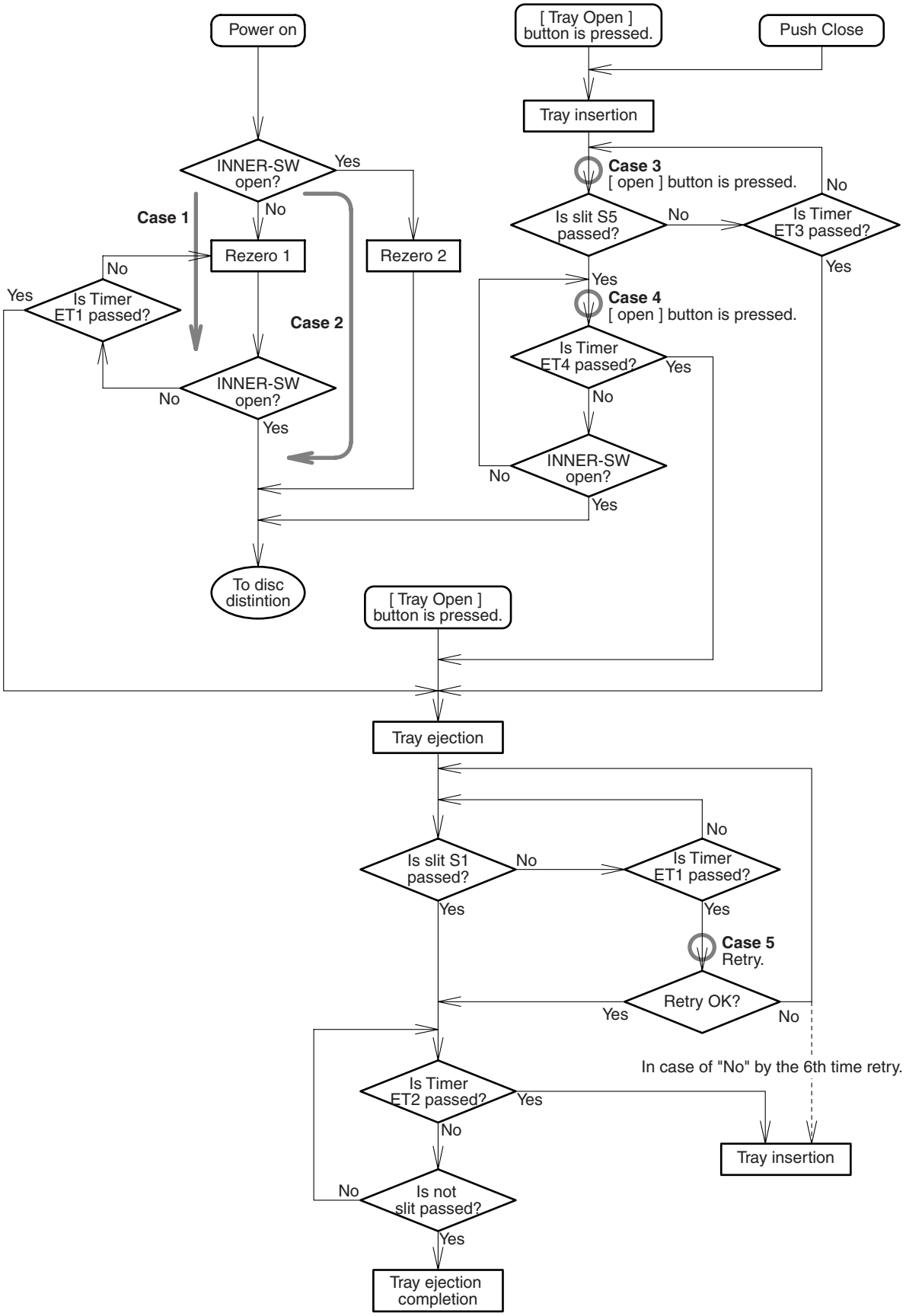

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
87 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
26 LM-FWD "M" /REV
"Z" C-DRIVE
32 C-F/R
DRUM ROTATION
27 P-ON-L
31 A-MUTE-H
29 D-REC-H
D-PB
9 TV/VIDEO
DISPLAY
STOP
FF
STOP
REW
STOP
REC
REC PAUSE
REC
STOP
STOP(A)
FF
LD-REV
0.2S
LD-FWD
FF
STOP /EJECT
REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REW
LD-REV
0.2S
LD-FWD
REW
STOP /EJECT
LD-REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REC
LD-FWD
REC
PAUSE
LD-FWD
2.5S Short REV
LD-REV
0.2S
LD-FWD
REC PAUSE
REC or PAUSE
REC
STOP /EJECT
LD-FWD
1.5S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
STOP /EJECT
LD-REV
0.2S
LD-REV
0.5S
0.2S
0.5S
CASS. UNLD
EJECT
ST-S/ END-S "ON"
0.2S
0.4S
40mS
20mS
1.0S
1.2S
0.1S

Fig. 4

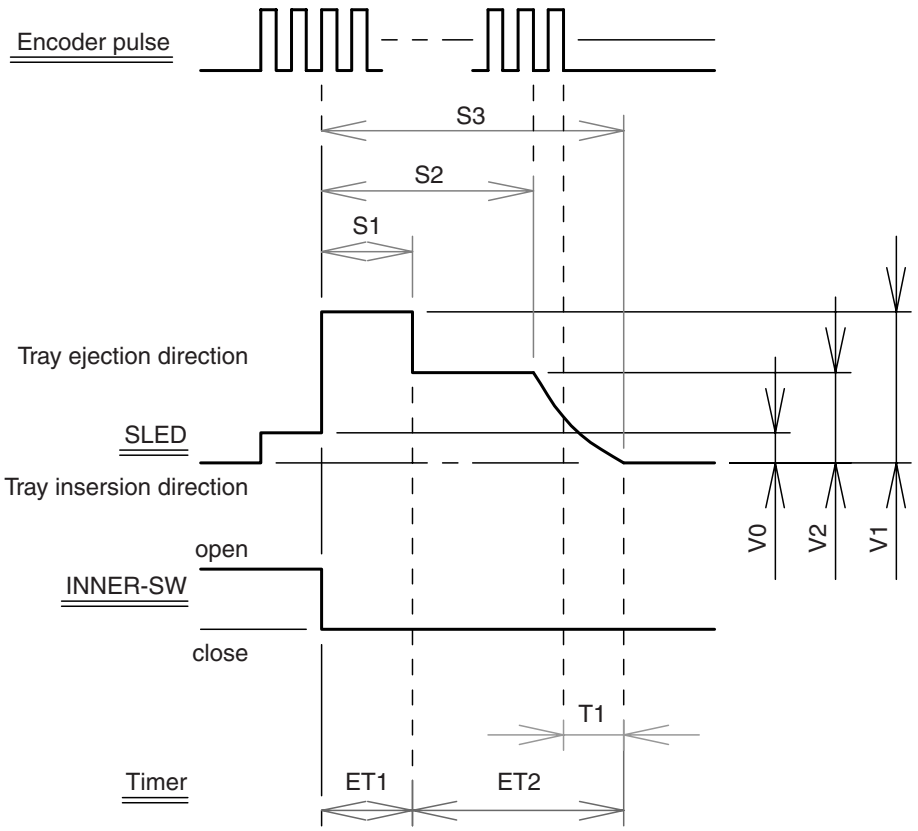
< DVD Section >


Power on
[Tray Open]
button is pressed.
Push Close
Tray insertion
INNER-SW
open?
Yes
No
Case 1
Rezero 1
Rezero 2
No
Yes
Is Timer
ET1 passed?
Case 2
No
INNER-SW
open?
Yes
Case 3
[open] button is pressed.
No
Is slit S5
passed?
No
Is Timer
ET3 passed?
Yes
Yes
Case 4
[open] button is pressed.
Is Timer
ET4 passed?
Yes
No
No
INNER-SW
open?
Yes
To disc
distintion
[Tray Open]
button is pressed.
Tray ejection
No
Is slit S1
passed?
No
Is Timer
ET1 passed?
Yes
Yes
Case 5
Retry.
Retry OK?
Yes
No
In case of "No" by the 6th time retry.
Is Timer
ET2 passed?
Yes
No
Tray insertion
No
Is not
slit passed?
Yes
Tray ejection
completion

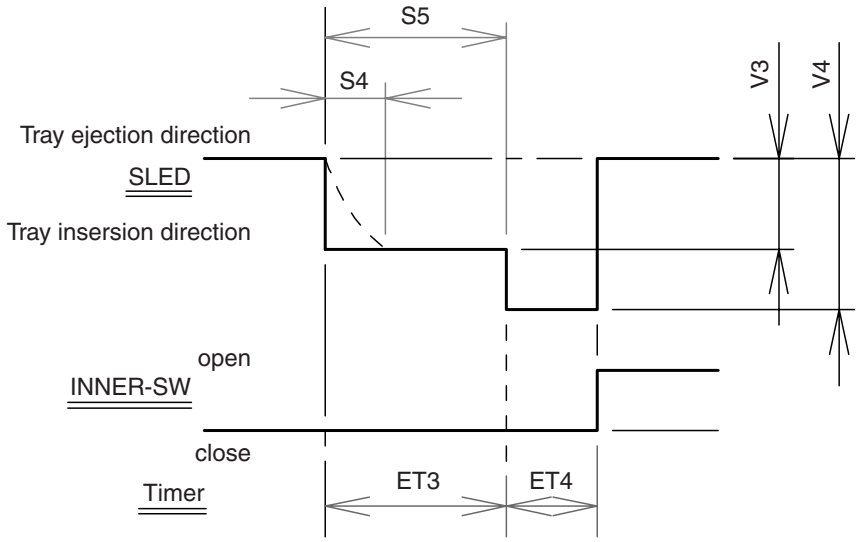
Parameter

V*: Voltage (HEX)	S*: Encoder pulse (HEX)	T*: Event timer	ET*: Error detection timer
V0: 2.0 V (00d)	S1: 300 (12c)	T1: 0.1 s	ET1: 5.0 s
V1: 4.5 V (022)	S2: 3300 (ce4)	T2: 3.0 s	ET2: 5.0 s
V2: 2.2 V (010)	S3: 3935 (f5f)	T3: 3.0 s	ET3: 3.0 s
V3: 2.4 V (013)	S4: 0 (000)	T4: 0.1 s	ET4: 3.0 s
V4: 6.0 V (030)	S5: 3000 (bb8)	T5: 0.1 s	

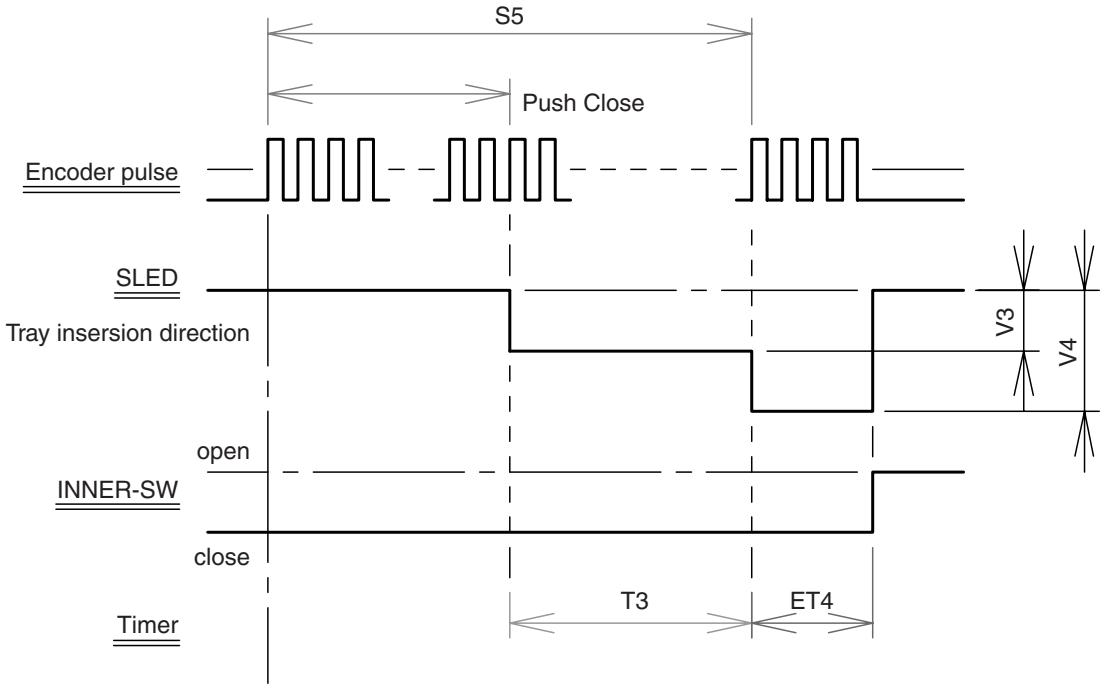
Tray open



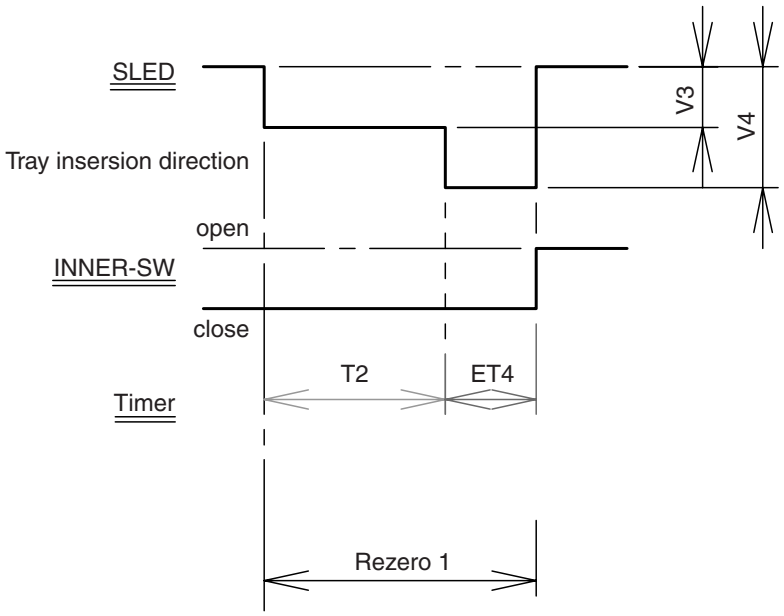
Tray close



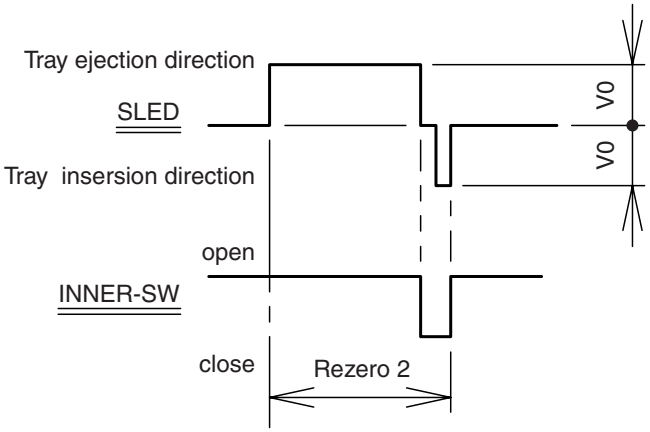
Push close



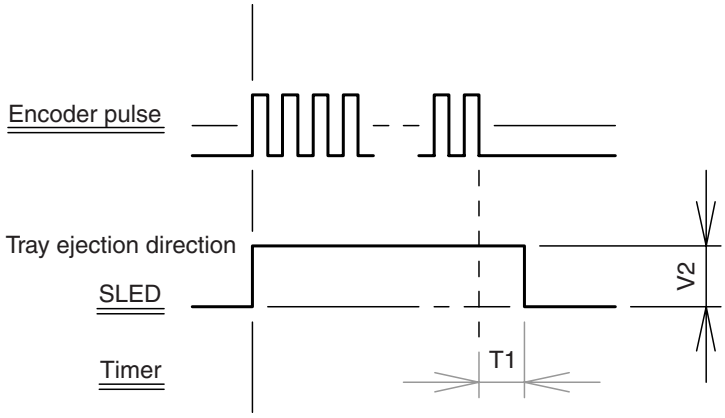
Case 1



Case 2



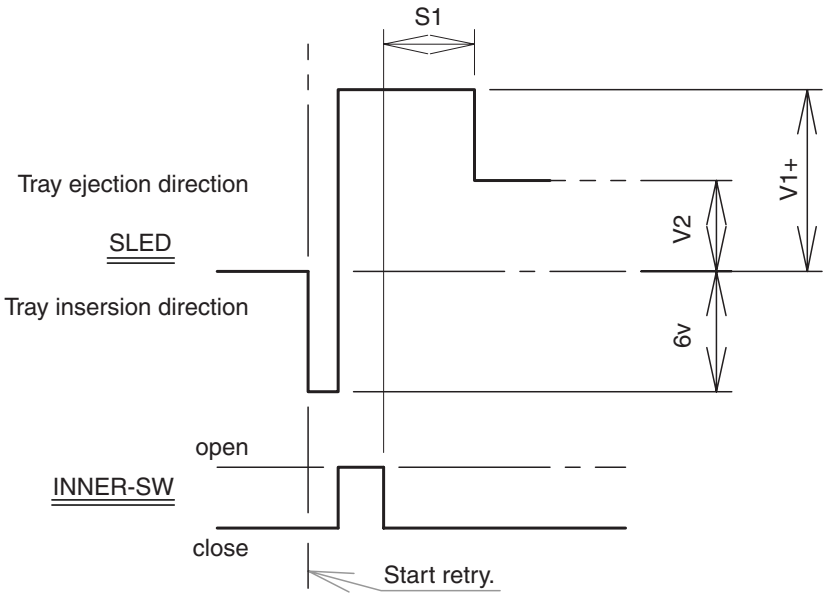
Case 3 (When [OPEN] button is pressed before the S5 passage.)



Case 4 (When [OPEN] button is pressed after the S5 passage.)

It starts opening after making closing complete once.

Case 5 (Retry.)



Retry frequency	V1+
1st time retry	6 v
2nd time retry	7 v
3rd time retry	8 v
4th time retry	9 v
5th time retry	9 v
6th time retry	9 v

IC PIN FUNCTION DESCRIPTIONS

< VCR Section >

IC501 (SERVO/SYSTEM CONTROL/OSD)

"H" ≥ 4.5 V, "L" ≤ 1.0 V

Pin No.	IN/ OUT	Signal Name	Function
1	IN	P-DOWN -H	Power Voltage Down Detector Signal
2	IN	READY/ BUSY	Ready/Busy Communication Control with Main Micro Controller
3	IN	T-REEL	Take Up Reel Rotation Signal
4	-	NU	Not Used
5	IN	REMOCON -IN	Remote Control Sensor
6	OUT	DISPLAY-ENA	FL Display Driver IC Enable Control Output Signal
7	OUT	DISPLAY-DATA	FL Display Driver IC Data Control Output Signal
8	OUT	DISPLAY-CLK	FL Display Driver IC Clock Control Output Signal
9	OUT	TV/VIDEO	RF Conv. ON/OFF Signal
10	OUT	CONV-SW	RF Conv. Output Channel Switching Signal 3ch="Hi-z", 4ch="L"
11	OUT	S-CLK	Communication of Clock with VCR Micro Controller
12	IN	S-DATA-IN	Communication of Data to VCR Micro Controller
13	OUT	S-DATA-OUT	Communication of Data from VCR Micro Controller
14	-	NU	Not Used
15	-	NU	Not Used
16	-	NU	Not Used
17	IN/ OUT	IIC-BUS-SDA	IIC BUS Control Data
18	OUT	IIC-BUS-SCL	IIC BUS Control Clock
19	OUT	YCA-SCL	YCA IC Control Clock
20	OUT	YCA-SDA	YCA IC Control Data
21	OUT	YCA-CS	YCA IC Control Chip Select
22	IN	REC-SAF-SW	Recording Safety SW Detect (With Record tab = "L"/ With out Record tab = "H")
23	OUT	RF-SW	Video Head Switching Pulse
24	OUT	D-V SYNC	Dummy V-sync Output
25	IN	RESET	System Reset Signal (Reset="L")
26	OUT	LM-FWD/ REV	Loading Motor FWD/ REV Output
27	OUT	P-ON-L	Power On Signal to Low
28	-	NU	Not Used
29	OUT	D-REC	Delayed Record Signal
30	OUT	Hi-Fi-H-SW	Hi-Fi Audio Head Switching Pulse
31	OUT	VCR-AUDIO-MUTE	VCR Audio Mute Control Signal
32	OUT	C-F/R	Capstan Motor FWD/REV Control Signal (FWD="L"/ REV="H")
33	OUT	C-CONT	Capstan Motor Control Signal
34	OUT	D-CONT	Drum Motor Control Signal
35	-	NU	Not Used
36	-	VDD	VDD (AL+5V)
37	OUT	OSCO	Main Clock Output 14.31818MHz
38	IN	OSCI	Main Clock Input 14.31818MHz
39	-	VSS	VSS (GND)
40	IN	XI	Main Clock Input
41	OUT	XO	Main Clock Output
42	IN	SXI	Operation Mode Selecting Input Signal
43	OUT	PWR-SW	DVD Power Supply Control Signal
44	IN	SYS-RESET	System Reset Signal (Reset="L")
45	OUT	REG-CONT2	Power Regulator Control Signal
46	OUT	REG-CONT1	Power Regulator Control Signal
47	OUT	VIDEO-OUT	Composite Video Signal Output
48	-	Vss	VSS (GND)
49	IN	VIDEO-IN	Composite Video Signal Input
50	IN	C-SYNC-IN	Composite Synchronized Pulse
51	-	VDD2	VDD2 (AL+5V)

Pin No.	IN/ OUT	Signal Name	Function
52	IN	AFCC	Low Path Filter Input Signal For AFC
53	OUT	AFCLPF	Low Path Filter Output Signal For AFC
54	OUT	VIDEO-MUTE	Video Mute Control Signal
55	OUT	OUTPUT-SELECT	Output Select (DVD="L"/ VCR="H")
56	OUT	DVD-AUDIO-MUTE	DVD Audio Mute Control Signal
57	OUT	VIDEO-SW3	Video Switching Signal 3
58	OUT	VIDEO-SW2	Video Switching Signal 2
59	OUT	VIDEO-SW1	Video Switching Signal 1
60	OUT	AUDIO-SW2	Audio Switching Signal 2
61	OUT	AUDIO-SW1	Audio Switching Signal 1
62	-	NU	Not Used
63	-	NU	Not Used
64	-	NU	Not Used
65	IN	D-PFG	Drum PG/FG Input Signal
66	-	NU	Not Used
67	IN	C-FG	Capstan Motor Rotation Detection Pulse
68	-	AFG	GND
69	OUT	VRO	Servo Standard Voltage Output
70	IN	VRI	Servo Standard Voltage Input
71	-	AVss	AVSS (GND)
72	IN	CTLA	CTL Amp. AC GND
73	IN	ADVV	Power Supply
74	IN/ OUT	CTL (+)	Playback/Record Control Signal (+)
75	IN/ OUT	CTL (-)	Playback/Record Control Signal (-)
76	OUT	CTL	Amp. Output Control Signal for Test Point
77	-	NU	Not Used
78	IN	Hi-Fi/ NOR-IN	Audio Mode Input HiFi="L"/ Normal="H"
79	IN	DVD POWER-SAFETY	DVD Power Supply Safety Signal
80	IN	VCR POWER-SAFETY	VCR Power Supply Safety Signal
81	IN	END-S	Tape End Position Detect Signal
82	IN	AFC	Automatic Frequency Control Signal
83	IN	V-ENV	Video Envelope Comparator Signal
84	IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage
85	IN	KEY-2	A/D Key Data Signal 2
86	IN	KEY-1	A/D Key Data Signal 1
87	IN	LD-SW	Deck Mode Position Detector Signal
88	IN	ST-S	Tape Start Position Detector Signal
89	IN	DVD POWER-SAFETY2	DVD Power Supply Safety Signal
90	-	NU	Not Used
91	OUT	FAN-CONT1	Fan Motor Control Signal
92	OUT	POWER-LED	Power LED Signal Output
93	OUT	POWER-LED	Power LED Signal Output
94	OUT	VCR-LED	VCR Mode LED Signal Output
95	OUT	VCR-LED	VCR Mode LED Signal Output
96	OUT	DVD-LED	DVD Mode LED Signal Output
97	OUT	DVD-LED	DVD Mode LED Signal Output
98	OUT	C-ROTA	Color Phase Rotary Changeover Signal
99	OUT	H-A-SW	Video Head Amp Switching Pulse
100	IN	H-A-COMP	Head Amp Comparator Signal

Notes:

Abbreviation for Active Level:

PWM ----- Pulse Wide Modulation

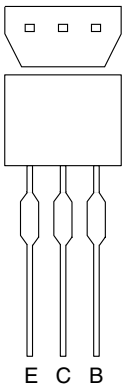
A/D -------- Analog - Digital Converter

< DVD Section >

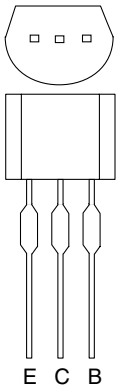
IC571 (FIP DRIVER IC)

Pin No.	IN/ OUT	Signal Name	Function
1	IN	CLK	Clock Input
2	IN	STB	Serial Interface Strobe
3	-	NU	Not Used
4	-	NU	Not Used
5	-	VSS	GND
6	-	VDD	Power Supply
7	OUT	a	Segment Output
8		b	
9		c	
10		d	
11		e	
12		f	
13		g	
14		h	
15	-	VEE	Pull Down Level
16	OUT	i	Segment Output
17	OUT	7G	Grid Output
18		6G	
19		5G	
20		4G	
21		3G	
22		2G	
23		1G	
24	-	VDD	Power Supply
25	-	VSS	GND
26	IN	OSC	Oscillator Input
27	-	NU	Not Used
28	IN	DIN	Serial Data Input

LEAD IDENTIFICATIONS

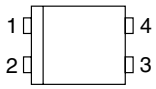


KRA103M-AT/P
KRC103M-AT/P
KTA1267Y-AT/P
KTC3193-Y-AT/P
KTC3199-(BL,Y)-AT/P
KTA1266-Y-AT/P



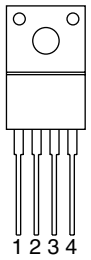
KTC3198-Y-AT/P
KTC3203-Y-AT/P
2SC3266-GR(TPE2 F)

PS2561A-1(W)



1: Anode
2: Cathode
3: Emitter
4: Collector

PQ070XF01SZH



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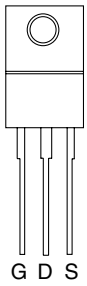

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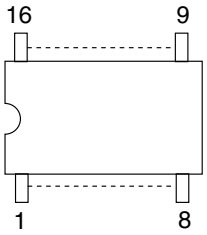

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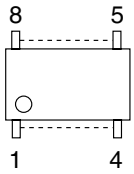

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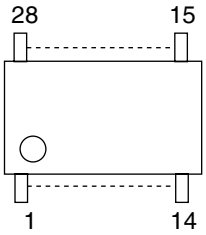

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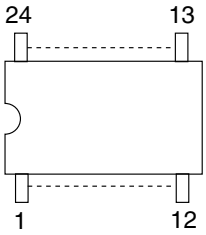

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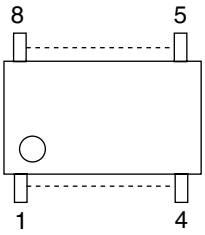
RC4580IP



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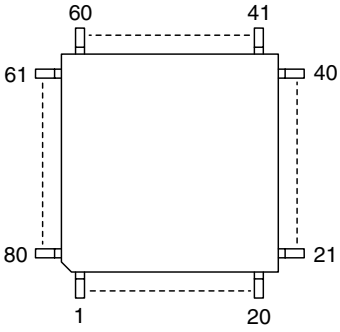

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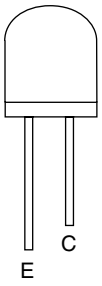

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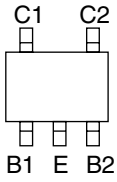

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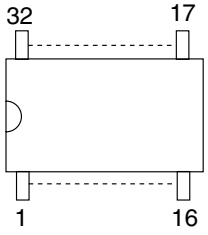

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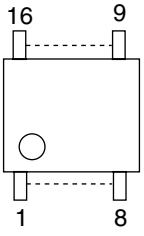

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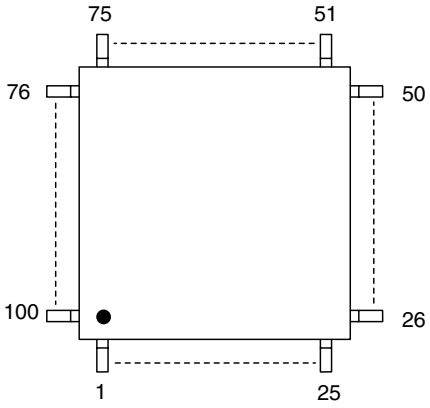

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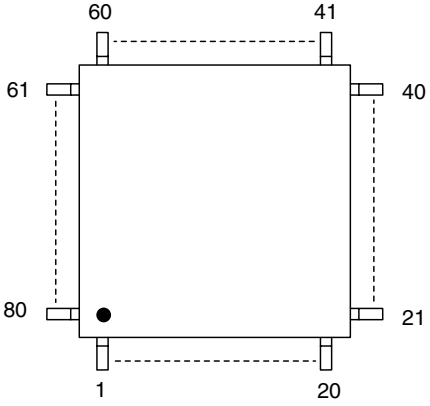
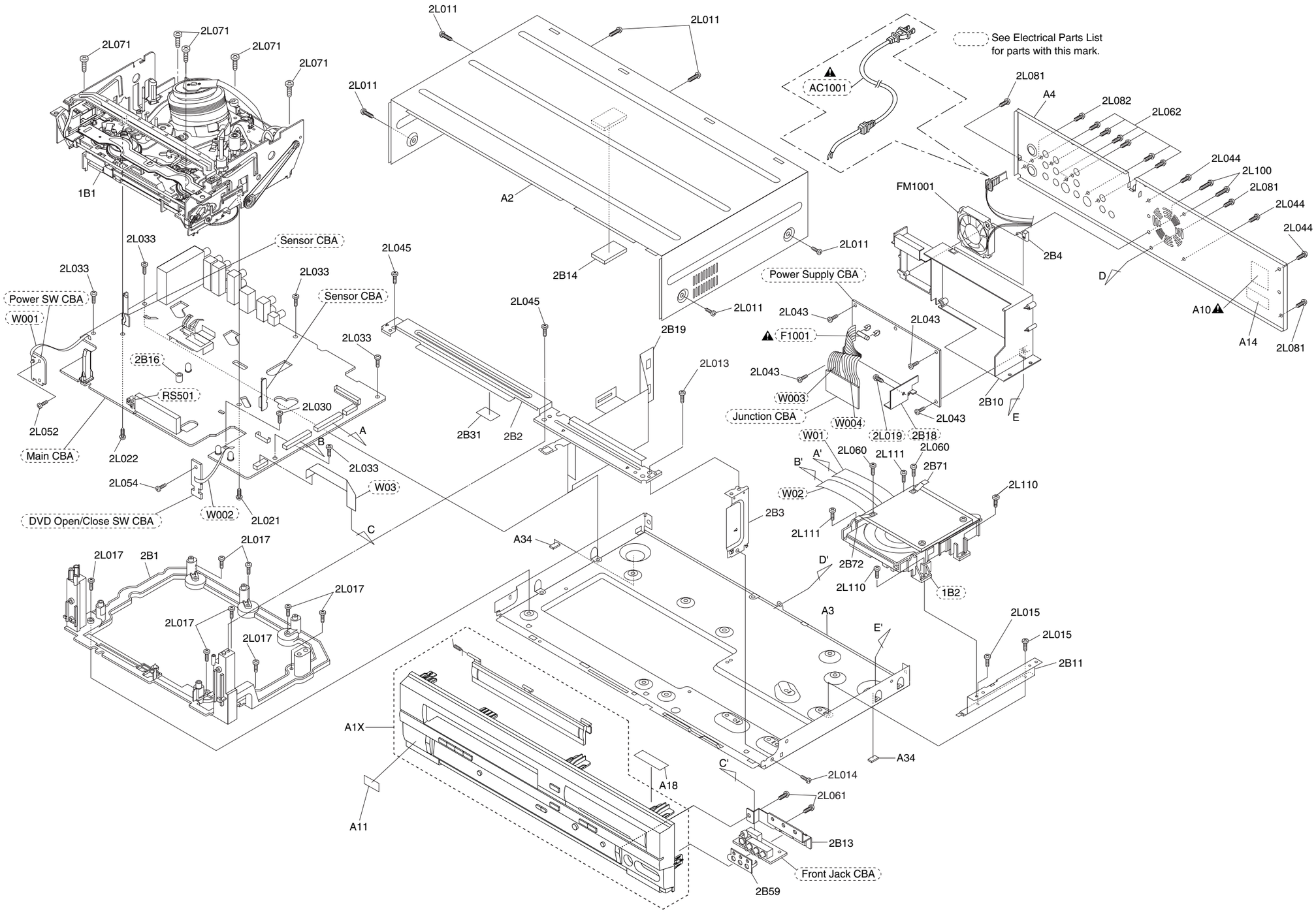


Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



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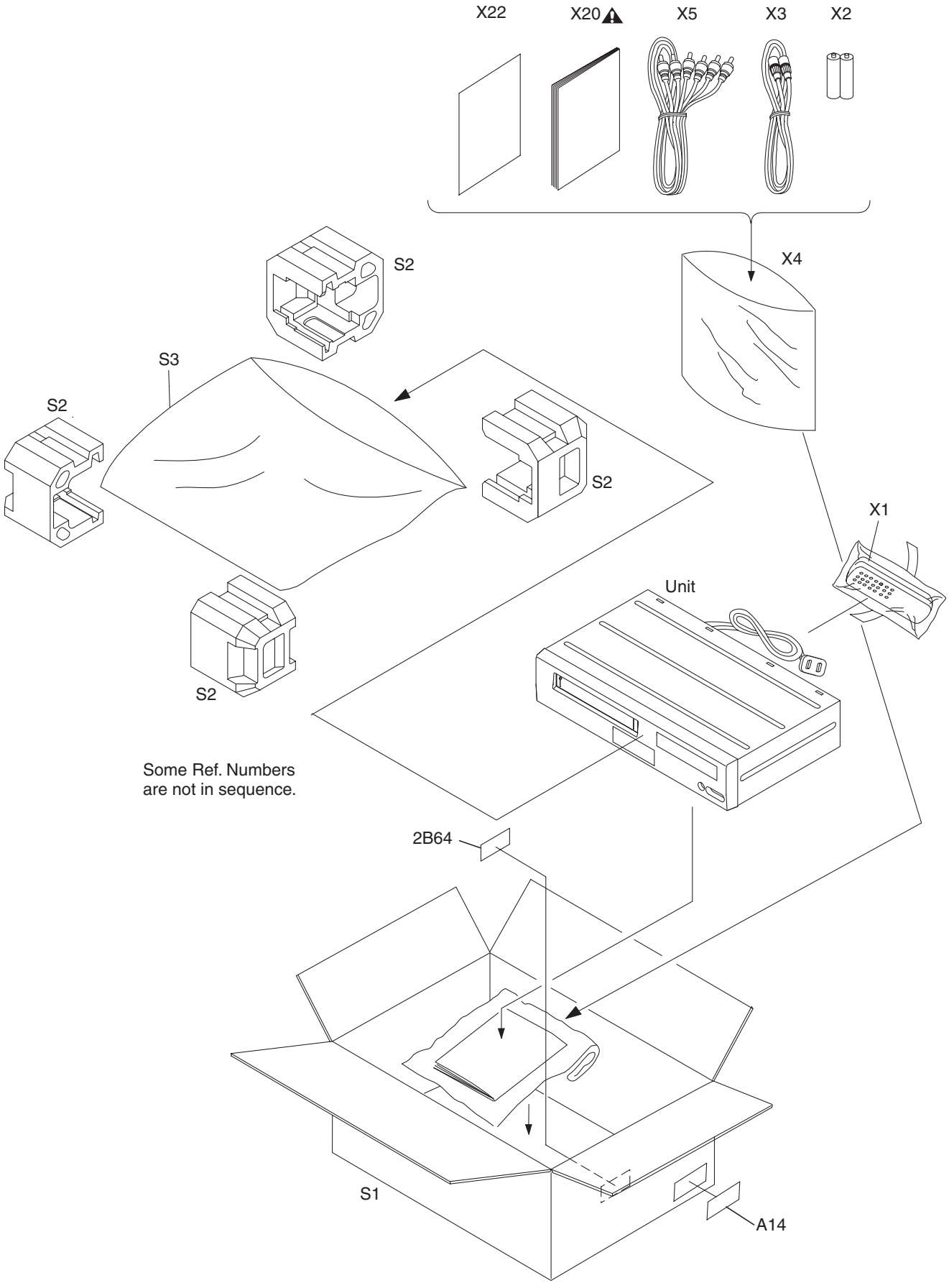
X22
X20
X5
X3
X2
X4
S2
S3
S2
S2
S2
X1
Unit
Some Ref. Numbers
are not in sequence.
2B64
S1
A14

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY E9A10UD	1VM222174
A2	TOP COVER E9400UD	0VM101356D
A3	MAIN CHASSIS E9400UD	0VM101353E
A4	REAR PANEL E9A80UD	1VM221882
A10⚠	RATING LABEL(U) E9A10UD	----------
A11	LABEL -RW/-R E6700UD	----------
A14	LABEL BAR CODE HB400UD	----------
A18	LABEL TELEPHONE NO.(SYMPHONIC) E9411UD	----------
A34	FOOT H5100UD	0VM406940
1B1	DECK ASSEMBLY CZD014/VM2460	N2460FL
2B1	DECK PEDESTAL E9600UD	1VM120055B
2B2	FRONT BRACKET E9400UD	0VM204534C
2B3	FRONT BRACKET R E9400UD	0VM416269A
2B4	EARTH PLATE E9600UD	1VM421163
2B10	HOLDER PCB E9400UD	0VM101354C
2B11	BRACKET R E9600UD	1VM421062C
2B13	JACK BRACKET E9400UD	0VM416273
2B14	CUSHION RUBBER E9400UD	0VM416664
2B19	RADIATION SHEET E9610UD	1VM320666
2B31	TAPE HIMELON H9206JD	0VM413956
2B59	JACK EARTH PLATE E9600UD	1VM320623
2B64	LABEL EAS L0951UB	----------
2B71	MECHA EARTH PLATE R E9A80UD	1VM424038
2B72	MECHA EARTH PLATE F E9A80UD	1VM424039
2L011	SCREW C-TIGHT M3X5 BIND HEAD +	GBCC3050
2L013	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L014	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L015	SCREW M3X5 HEAD+ BIND S-TIGHT	GBJS3050
2L017	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
2L021	SCREW P-TIGHT M3X8 BIND HEAD+	GBCP3080
2L022	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L030	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L033	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
2L043	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L044	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L045	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L052	SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L054	SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L060	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
2L061	SCREW P-TIGHT M3X6 BIND HEAD+	GBJP3060
2L062	SCREW B-TIGHT M3X8 BIND HEAD+	GBHB3080
2L071	SCREW P-TIGHT M3*10 WASHERHEAD+	GCJP3100
2L081	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+	GBHS3050
2L082	SCREW S-TIGHT M3*5 BIND+ 3*5 BIND+	GBHS3050
2L100	P-TIGHT SCREW M3X34 E9400UD	1VM420034A
2L110	SCREW S-TIGHT M3X10 BIND HEAD+	GBJS3100
2L111	SCREW P-TIGHT M3*12 BIND+	GBJP3120
FM1001	DC FAN MOTOR D06K-12TS7 01(AX)	MMEZR12NH003

Ref. No.	Description	Part No.
	PACKING	
S1	GIFT BOX CARTON E9A10UD	1VM322301
S2	STYROFOAM E9400UD	0VM101363B
S3	SET BAG E7708UA	0DM400731D
	ACCESSORIES	
X1	REMOTE CONTROL UNIT NB197UD	NB197UD
X2	DRY BATTERY R6P/2S	XB0M451T0001
X3	RF CABLE 2.5C-2V	WPZ0901TM002
X4	ACCESSORY BAG E5700UD	0VM415576
X5	AV CORD WPZ0102TM015	WPZ0102TM015
X20⚠	OWNERS MANUAL E9A10UD	1VMN22013
X22	QUICK GUIDE E9A10UD	1VMN22014

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

DVD MECHANISM & DVD MAIN CBA ASSEMBLY

Ref. No.	Description	Part No.
1B2	DVD MECHANISM & DVD MAIN CBA ASSEMBLY	N78FACUN

MCV CBA

Ref. No.	Description	Part No.
	MCV CBA Consists of the following:	1VSA14014
	MAIN CBA (MCV-A) POWER SW CBA (MCV-B) DVD OPEN/CLOSE SW CBA (MCV-C) FRONT JACK CBA (MCV-D) SENSOR CBA	---------- ---------- ---------- ---------- 1VSA13725

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA (MCV-A) Consists of the following:	----------
	CAPACITORS	
C051	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C055	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C056	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C103	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C213	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C214	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C215	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C222	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C223	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C224	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C227	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C228	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C301	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C302	CHIP CERAMIC CAP.(1608) CH J 390pF/50V	CHD1JJ3CH391
C303	PCB JUMPER D0.6-P5.0	JW5.0T
C304	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C305	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C307	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C308	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C309	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C310	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C311	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C312	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C313	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C314	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C315	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C316	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C317	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C318	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C319	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C320	CERAMIC CAP.(AX) Y M 0.01μF/16V	CCA1CMT0Y103
C321	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C324	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C327	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C328	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C329	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C330	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C331	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C332	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C333	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C336	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C339	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C340	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C341	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C342	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C343	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C346	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C391	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C392	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C401	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C404	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C405	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C406	ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C407	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C408	CHIP CERAMIC CAP.(1608) B K 0.012μF/50V	CHD1JK30B123
C409	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C410	CHIP CERAMIC CAP.(1608) B K 2700pF/50V	CHD1JK30B272
C411	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C412	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C413	CHIP CERAMIC CAP.(1608) B K 6800pF/50V	CHD1JK30B682
C422	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C423	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C424	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C425	FILM CAP.(P) 0.018μF/100V J	CMA2AJS00183
C440	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C441	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C448	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C449	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C451	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C452	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C453	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C454	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C455	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C456	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C457	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C458	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C459	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C460	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472

Ref. No.	Description	Part No.
C461	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C462	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C465	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C466	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C467	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C470	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C471	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C473	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C474	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C475	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C476	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C483	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C485	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C502	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C505	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C507	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C508	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C509	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C513	CHIP CERAMIC CAP.(1608) CH D 10pF/50V	CHD1JD3CH100
C514	CHIP CERAMIC CAP. CH J 27pF/50V	CHD1JJ3CH270
C515	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C521	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C522	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C523	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C525	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C527	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C529	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C530	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C531	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C532	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C533	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C534	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C535	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C536	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C537	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C540	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C544	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C545	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMAVSL101
C550	ELECTROLYTIC CAP. 22μF/50V M H7	CE1JMASSL220
C585	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C586	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C587	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C588	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C706	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C751	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C752	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C762	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C766	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C777	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C814	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C818	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C819	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C820	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C821	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C822	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C823	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C825	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C826	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C827	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C828	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C829	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C835	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471

Ref. No.	Description	Part No.
C839	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C840	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C841	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C844	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C845	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C846	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C847	CHIP CERAMIC CAP. CH J 220pF/50V	CHD1JJ3CH221
C848	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C850	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C851	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C852	CHIP CERAMIC CAP. CH J 220pF/50V	CHD1JJ3CH221
C853	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C854	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C863	ELECTROLYTIC CAP. 4.7μF/25V M	CE1EMASDL4R7
C864	ELECTROLYTIC CAP. 4.7μF/25V M	CE1EMASDL4R7
C900	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C901	ELECTROLYTIC CAP. 0.33μF/50V M	CE1JMASDLR33
C902	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
C903	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C904	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C905	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C906	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C907	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C908	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C909	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C910	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C911	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C912	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C913	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMASSL2R2
C916	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C917	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C918	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C919	ELECTROLYTIC CAP. 0.33μF/50V M	CE1JMASDLR33
C920	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C922	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C923	ELECTROLYTIC CAP. 0.22μF/50V M	CE1JMASDLR22
C925	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C926	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C927	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C928	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C1323	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1325	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C1333	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C1335	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1351	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1352	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C1354	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C1401	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1403	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C1421	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1423	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1441	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1442	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1443	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1461	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1462	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1481	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1482	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C1523	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1524	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1531	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1532	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMASSL220
C1535	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
C1536	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMASSL220
C1537	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
	CONNECTORS	
CN101	242 SERIES CONNECTOR 224202118W1	J322C18TG001
CN102	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN)	J3PHC02JG029
CN1609	FE CONNECTOR TOP 8P 08FE-BT-VK-N	JCFEJ08JG001
	DIODES	
D052	ZENER DIODE DZ-10BSBT265	NDTB00DZ10BS
D082	PCB JUMPER D0.6-P10.0	JW10.0T
D083	ZENER DIODE DZ-18BSBT265	NDTB00DZ18BS
D085	RECTIFIER DIODE 1N4005	NDQZ001N4005
D100	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D101	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D106	ZENER DIODE DZ-4.3BSCT265	NDTC0DZ4R3BS
D108	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D109	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D112	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D221	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D223	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D501	SWITCHING DIODE 1N4148M	NDTZ01N4148M
D555	LED MIE-534A2	NPZZM1E534A2
D562	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D563	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D701	ZENER DIODE DZ-33BSDT265	NDTD00DZ33BS
D801	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D802	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D805	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D806	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D807	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D808	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D1603	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1604	RECTIFIER DIODE 1N4005	NDQZ001N4005
	ICS	
IC301	IC Y/C/A LA71205M-MPB-E	QSZBA0RSY037
IC451	IC HIFI LA72670BM-MPB-E	QSZBA0RSY039
IC501	IC PROCESSOR MN101D10FYD	QSZAA0RMS049
IC571	VFD DRIVER/CONTROLLER IC PT6313-S-TP(L)	NSZBA0TG2007
IC800	IC SWITCHING CD4052BNSR	NSZBA0TTY091
IC803	IC OP AMP RC4580IP	NSZBA0STY173
IC804	IC OP AMP KIA4558P/P	NSZBA0SJY035
IC805	VIDEO SWITCH MM1697AJBE	QSZBA0TMM150
IC900	IC MTS DECORDER AN5832SA-E1V	QSZBA0TMS003
IC1404	DRIVER FOR DVD MM1636XWRE	QSZBA0TMM108
IC1405	DRIVER FOR DVD MM1637XVBE	QSZBA0TMM102
IC1406	IC ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC1503	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC1504	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
	COILS	
L200	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
L251	PCB JUMPER D0.6-P5.0	JW5.0T
L303	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
L304	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L421	INDUCTOR 47μH-K-5FT	LLARKBSTU470
L422	INDUCTOR 22μH-K-26T	LLAXKATTU220
L423	PCB JUMPER D0.6-P5.0	JW5.0T
L451	PCB JUMPER D0.6-P5.0	JW5.0T
L501	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101
L502	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L503	INDUCTOR 12μH-K-26T	LLAXKATTU120
L505	INDUCTOR(100μH K) LAP02TA101K	LLAXKATTU101

Ref. No.	Description	Part No.
L771	PCB JUMPER D0.6-P5.0	JW5.0T
L800	PCB JUMPER D0.6-P5.0	JW5.0T
L801	PCB JUMPER D0.6-P5.0	JW5.0T
L900	PCB JUMPER D0.6-P5.0	JW5.0T
L901A	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1351	INDUCTOR(0.47μH K) LAP02TAR47K	LLAXKATTUR47
L1441	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L1461	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L1481	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L1522	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
	TRANSISTORS	
Q052	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q055	TRANSISTOR KTC3198-Y-AT/P	NQSYKTC3198P
Q056	TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q057	TRANSISTOR KTC3198-Y-AT/P	NQSYKTC3198P
Q101	TRANSISTOR 2SC3266-GR(TPE2 F)	QQS12SC3266F
Q102	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q103	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q104	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q105	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q107	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q108	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q205	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q301	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q302	TRANSISTOR KTC3193-Y-AT/P	NQSYKTC3193P
Q303	TRANSISTOR KTC3193-Y-AT/P	NQSYKTC3193P
Q391	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q421	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q422	TRANSISTOR KTC3203-Y-AT/P	NQSYKTC3203P
Q425	RES. BUILT-IN TRANSISTOR KRA103M-AT/P	NQSZ0KRA103M
Q426	CHIP TRANSISTOR RN1511(TE85R.F)	QQ2Z0RN1511F
Q501	TRANSISTOR KTC3199-BL-AT/P	NQS5KTC3199P
Q506	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q509	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q510	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q804	TRANSISTOR KTA1266-Y-AT/P	NQSYKTA1266P
Q805	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q806	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q1303	TRANSISTOR KTC3199-BL-AT/P	NQS5KTC3199P
Q1304	TRANSISTOR KTC3199-BL-AT/P	NQS5KTC3199P
Q1305	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1351	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
	RESISTORS	
R056	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R057	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R064	CARBON RES. 1/6W G 1.5k Ω	RCX6GATZ0152
R065	CARBON RES. 1/6W G 820 Ω	RCX6GATZ0821
R073	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R075	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R092	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R095	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R097	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R103	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R104	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R106	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R108	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R109	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R112	CARBON RES. 1/4W J 5.6 Ω	RCX4JATZ05R6
R113	CARBON RES. 1/4W J 8.2 Ω	RCX4JATZ08R2
R115	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R116	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472

Ref. No.	Description	Part No.
R117	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R118	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R125	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R126	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R127	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R132	CARBON RES. RD1/2S101JTA	RCX2JATZ0101
R133	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R221	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R222	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R223	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5H0152
R224	CHIP RES. 1/10W F 15k Ω	RRXAFR5H0153
R225	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R226	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R228	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R229	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R230	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R231	CHIP RES.(1608) 1/10W F 120 Ω	RRXAFR5H0121
R232	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R234	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R301	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R302	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R304	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R306	CHIP RES. 1/10W J 3.9M Ω	RRXAJR5Z0395
R307	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R308	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R309	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R310	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R311	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R312	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R313	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R314	CHIP RES. 1/10W J 680k Ω	RRXAJR5Z0684
R316	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R317	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R321	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R322	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R323	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R324	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R327	CHIP RES.(1608) 1/10W F 1.1k Ω	RRXAFR5H0112
R391	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R392	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R395	PCB JUMPER D0.6-P5.0	JW5.0T
R397	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R401	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R402	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R409	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R410	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R411	CHIP RES. 1/10W J 330k Ω	RRXAJR5Z0334
R412	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R413	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R414	CHIP RES. 1/10W J 910 Ω	RRXAJR5Z0911
R415	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R421	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R422	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R424	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R425	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R426	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R451	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R452	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R453	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R454	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R455	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R456	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R457	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471

Ref. No.	Description	Part No.
R458	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R459	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R463	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R464	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R465	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R466	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R468	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R469	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R470	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R471	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R484	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R485	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R486	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R487	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R502	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R503	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R504	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R506	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R508	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R511	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R516	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R517	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R518	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R521	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R523	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R524	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R525	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R526	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R527	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R528	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R529	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R531	CHIP RES.(1608) 1/10W F 4.7k Ω	RRXAFR5H0472
R532	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5H0152
R533	CHIP RES.(1608) 1/10W F 22k Ω	RRXAFR5H0223
R534	CHIP RES. 1/10W F 470 Ω	RRXAFR5H0471
R535	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R536	CHIP RES.(1608) 1/10W F 3.6k Ω	RRXAFR5H0362
R537	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R540	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R541	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R542	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R543	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R544	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R545	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R546	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R547	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R548	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R551	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R556	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R559	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R562	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R564	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R566	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R585	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R590	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R591	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R592	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R595	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R601	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R602	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R603	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R604	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R605	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222

Ref. No.	Description	Part No.
R606	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R607	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R608	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R611	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R612	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R613	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R614	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R615	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R616	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R617	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R618	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R641	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R642	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R645	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R646	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R647	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R648	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R650	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R651	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R702	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R751	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R777	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R778	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R806	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R807	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R808	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R809	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R810	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R825	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R826	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R827	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R828	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R829	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R830	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R831	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R832	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R833	CARBON RES. 1/6W J 18k Ω	RCX6JATZ0183
R834	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R835	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R836	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R837	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R838	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R839	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R840	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R841	CHIP RES. 1/10W F 18k Ω	RRXAFR5H0183
R843	CHIP RES. 1/10W F 18k Ω	RRXAFR5H0183
R847	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R852	CHIP RES. 1/10W F 7.5k Ω	RRXAFR5H0752
R853	CHIP RES.(1608) 1/10W F 4.7k Ω	RRXAFR5H0472
R854	CHIP RES.(1608) 1/10W F 12k Ω	RRXAFR5H0123
R855	CHIP RES. 1/10W F 7.5k Ω	RRXAFR5H0752
R856	CHIP RES.(1608) 1/10W F 4.7k Ω	RRXAFR5H0472
R857	CHIP RES.(1608) 1/10W F 12k Ω	RRXAFR5H0123
R858	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R859	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R860	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R861	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R862	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R863	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R867	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R868	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R871	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R872	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221

Ref. No.	Description	Part No.
R875	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R876	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R900	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R902	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R907	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R908	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R909	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R910	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R911	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R912	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R914	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1327	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1329	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1331	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1332	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1333	CHIP RES. 1/10W J 910 Ω	RRXAJR5Z0911
R1334	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1335	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1351	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1352	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1353	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1354	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1355	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1356	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1402	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1403	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1404	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1407	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1409	CHIP RES.(1608) 1/10W F 220 Ω	RRXAFR5H0221
R1410	CHIP RES.(1608) 1/10W F 3.3k Ω	RRXAFR5H0332
R1421	CHIP RES.(1608) 1/10W F 240 Ω	RRXAFR5H0241
R1422	CHIP RES.(1608) 1/10W F 4.7k Ω	RRXAFR5H0472
R1441	CHIP RES.(1608) 1/10W F 200 Ω	RRXAFR5H0201
R1443	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1461	CHIP RES.(1608) 1/10W F 220 Ω	RRXAFR5H0221
R1462	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1481	CHIP RES.(1608) 1/10W F 220 Ω	RRXAFR5H0221
R1482	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1521	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1615	CARBON RES. 1/6W J 1.2k Ω	RCX6JATZ0122
R1616	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R1617	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
SWITCHES		
SW511	LEAF SWITCH MXS01830MVP0	SSC0101MCE03
SW512	ROTARY MODE SWITCH SSS-53MD	SSR0106KB003
SW602	TACT SWITCH KSM0614B	SST0101HH013
SW603	TACT SWITCH KSM0614B	SST0101HH013
SW604	TACT SWITCH KSM0614B	SST0101HH013
SW605	TACT SWITCH KSM0614B	SST0101HH013
SW606	TACT SWITCH KSM0614B	SST0101HH013
SW607	TACT SWITCH KSM0614B	SST0101HH013
SW608	TACT SWITCH KSM0614B	SST0101HH013
SW609	TACT SWITCH KSM0614B	SST0101HH013
SW611	TACT SWITCH KSM0614B	SST0101HH013
SW613	TACT SWITCH KSM0614B	SST0101HH013
SW616	TACT SWITCH KSM0614B	SST0101HH013
MISCELLANEOUS		
2B16	BUSH LED(F) H3700UD	0VM409508
FIP501	VACUUM FLUORESCENT DISPLA 7-BT-301NS	TVFD1C0FT049
JC2	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JC5	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JC6	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000

Ref. No.	Description	Part No.
JC31	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JC38	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JK751	RCA JACK MSP-213V1-324-B NI L	JXRL030LY104
JK804	RCA JACK MSP-213V3-324-B NI L	JYRL030LY025
JK805	RCA JACK MSP-382V-12 NILF	JXRL020LY120
JK1202	RCA JACK MSP-281V41-B(B110)	JXRL010LY140
JK1401	S TYPE JACK MDC-050V-2.4 LF(B110	JXEL040LY003
JK1402	S TYPE JACK MDC-050V-2.4 LF(B110	JXEL040LY003
JK1403	RCA JACK MSP-213V1-652-B NI L	JXRL030LY116
RS501	REMOTE RECEIVER MIM-93M6DKF	USESJRSUNT01
TP301	PCB JUMPER D0.6-P7.5	JW7.5T
TP302	PCB JUMPER D0.6-P15.0	JW15.0T
TP452	PCB JUMPER D0.6-P30.0	JW30.0T
TP502	PCB JUMPER D0.6-P7.5	JW7.5T
TP505	PCB JUMPER D0.6-P10.0	JW10.0T
TP506	PCB JUMPER D0.6-P5.0	JW5.0T
TP507	PCB JUMPER D0.6-P13.5	JW13.5T
TP513	PCB JUMPER D0.6-P5.0	JW5.0T
TP751	PCB JUMPER D0.6-P6.0	JW6.0T
TP753	PCB JUMPER D0.6-P6.0	JW6.0T
TP754	PCB JUMPER D0.6-P6.0	JW6.0T
TU900	TUNER UNIT VH025AFE	UTUNNTUSP026
VR501	CARBON P.O.T. VZ067TL1 B104 PB(F)	VRCB104HH014
W01	WIRE ASSEMBLY FFC 30PIN 30PIN/P1.00/140	WX1E9A00-001
W02	WIRE ASSEMBLY FFC 30PIN 30PIN/P1.00/140	WX1E9A00-001
X301	XTAL 3.579545MHz(20PPM)	FXC355LLN004
X502	RESONATOR XTAL 32.768kHzkHz 32.768kHz (10PPM12.5	FXC323LCHE02

POWER SW CBA

Ref. No.	Description	Part No.
	POWER SW CBA (MCV-B) Consists of the following:	----------
	DIODE	
D561	LED(RED) 204HD/E	NPQZ00204HDE
	SWITCH	
SW601	TACT SWITCH KSM0614B	SST0101HH013
	MISCELLANEOUS	
W001	WIRE ASSEMBLY 4P 4PIN/AWG26#2651/P2.0	WX1E9A00-002

DVD OPEN/CLOSE SW CBA

Ref. No.	Description	Part No.
	DVD OPEN/CLOSE SW CBA (MCV-C) Consists of the following:	----------
	SWITCHES	
SW615	TACT SWITCH KSM0614B	SST0101HH013
SW617	TACT SWITCH KSM0614B	SST0101HH013
	MISCELLANEOUS	
W002	WIRE ASSEMBLY 3PIN 3PIN/AWG26#2651/ P2.0	WX1E9A00-003

FRONT JACK CBA

Ref. No.	Description	Part No.
	FRONT JACK CBA (MCV-D) Consists of the following:	----------
	CONNECTOR	
CN1605	FE CONNECTOR TOP 8P 08FE-BT-VK-N	JCFEJ08JG001
	RESISTORS	
R804	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R812	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R815	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750

Ref. No.	Description	Part No.
	MISCELLANEOUS	
JK800	RCA JACK(RED) MTJ-032-11A-31 FE01	JYRL010LY024
JK801	RCA JACK(WHITE) MTJ-032-11B-41 FE01	JXRL010LY102
JK803	RCA JACK(YELLOW) MTJ-032-11B-40 FE01	JXRL010LY101
JK806	S TYPE JACK MDC-050V-2.4 LF(B110	JXEL040LY003
W03	FFC CABLE 8P FFC/P1.25/105	WX1E9600-002

SENSOR CBA

Ref. No.	Description	Part No.
	SENSOR CBA Consists of the following:	1VSA13725
	TRANSISTORS	
Q503	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q504	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12

PSV CBA

Ref. No.	Description	Part No.
	PSV CBA Consists of the following:	1VSA14012
	POWER SUPPLY CBA (PSV-A) JUNCTION CBA (PSV-B)	---------- ----------

POWER SUPPLY CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA (PSV-A) Consists of the following:	----------
	CAPACITORS	
C012	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C013	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C014	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C015	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMASDL102
C017	ELECTROLYTIC CAP. 4700μF/6.3V SL	CE0KMZADL472
C018	CERAMIC CAP. B K 220pF/500V	CCD2JKP0B221
C019	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C021	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C023	CERAMIC CAP. B K 470pF/500V	CCD2JKP0B471
C024	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C027	ELECTROLYTIC CAP. 3300μF/6.3V SL	CE0KMZADL332
C028	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C029	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C030	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C031	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C1001⚠	METALIZED FILM CAP. 0.068μF/250V M	CT2E683MS037
C1003	CERAMIC CAP. B K 0.01μF/500V	CCD2JKP0B103
C1004	ELECTROLYTIC CAP. 220μF/200V M	CA2D221S6008
C1005	CERAMIC CAP. B K 220pF/500V	CCD2JKP0B221
C1006⚠	SAFETY CAP. 3300pF/250V	CCG2EMA0F332
C1013	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1029	CERAMIC CAP.(AX) X K 2200pF/16V	CCA1CKT0X222
C1032	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C1033	CERAMIC CAP. F Z 0.022μF/50V	CCD1JZS0F223
	DIODES	
D012	SCHOTTKY BARRIER DIODE SB390	NDQZ000SB390
D013	RECTIFIER DIODE BA158	NDQZ000BA158
D014	SCHOTTKY BARRIER DIODE SB190	NDQZ000SB190
D015	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D016	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D017	ZENER DIODE DZ-15BSCT265	NDTC00DZ15BS
D018	RECTIFIER DIODE BA158	NDQZ000BA158
D020	PCB JUMPER D0.6-P5.0	JW5.0T
D021	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340

Ref. No.	Description	Part No.
D022	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D023	RECTIFIER DIODE FR101	NDWZ000FR101
D024	ZENER DIODE DZ-18BSAT265	NDTA00DZ18BS
D025	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
D1001	DIODE 1N5397-B	NDLZ001N5397
D1002	DIODE 1N5397-B	NDLZ001N5397
D1003	DIODE 1N5397-B	NDLZ001N5397
D1004	DIODE 1N5397-B	NDLZ001N5397
D1006	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1007	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
D1011	RECTIFIER DIODE BA158	NDQZ000BA158
D1012	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1018	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1023	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1025	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
IC		
IC010⚠	PHOTOCOUPLER PS2561A-1(W)	QPEWPS2561A1
COILS		
L010	POWER INDUCTORS TWKBNP-180K	LLC180KKV007
L012	POWER INDUCTORS TWKBNP-150K	LLC150KKV007
L013	RADIAL TYPE CHOKE COIL CW68-470K-841040NP	LLBD00PKV023
L1001⚠	LINE FILTER 27MH CGS-LF0059A-NP	LLBG00ZSA012
L1002	BEAD CORE B16 RH 3.5X10X1.3	XL03010XM001
TRANSISTORS		
Q031	TRANSISTOR KTA1267-Y-AT/P	NQSYKTA1267P
Q1001⚠	MOS FET 2SK3563	QFWZ02SK3563
Q1003	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q1008	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
RESISTORS		
R001⚠	GLASS GLAZE RES. 1/2W J 3.3M Ω	RXX2JZLZ0335
R015	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R016	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R017	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R018	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R019	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R020	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R021	CHIP RES.(1608) 1/10W F 2.2k Ω	RRXAFR5H0222
R022	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5H0562
R023	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1004	METAL OXIDE FILM RES. 2W J 82k Ω	RN02823ZU001
R1005	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1006	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1008	CARBON RES. 1/6W G 680 Ω	RCX6GATZ0681
R1010	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R1011	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68ZU001
R1029	CARBON RES. 1/6W J 150k Ω	RCX6JATZ0154
R1032	CARBON RES. 1/6W G 1.2k Ω	RCX6GATZ0122
R1034	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1036	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1037	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1038	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R1039	CARBON RES. 1/6W J 470k Ω	RCX6JATZ0474
R1043	METAL OXIDE FILM RES. 2W J 1.8 Ω	RN021R8ZU001
R1044	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
MISCELLANEOUS		
2B18	HEATSINK V2600PZ	0VM409007B
2L019	SCREW S-TIGHT M3X8 BIND HEAD+	GBJS3080
AC1001⚠	AC CORD W/O A GND WIRE UL/CSA 1770 BLACK	WAC0172LTE17
F1001⚠	FUSE TIME RAG SIC 1A 250V UC PSE	PEG20C0W3002
FH1001	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH1002	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
T001⚠	TRANS POWER BCK-28-0663	LTT00CPXB033

JUNCTION CBA

Ref. No.	Description	Part No.
	JUNCTION CBA (PSV-B) Consists of the following:	---------
CONNECTOR		
CN1612	242 SERIES CONNECTOR TUC-P18X-B1 WHT ST	JCTUB18TG002
DIODE		
D2013	RECTIFIER DIODE RL201	NDQZ000RL201
MISCELLANEOUS		
W003	WIRE ASSEMBLY 9P 9PIN/AWG26#2651/P2.0	WX1E9A00-004
W004	WIRE ASSEMBLY 9P 9PIN/AWG26#2651/P2.0	WX1E9A00-004

DVR90VG
E9A10UD
2006-04-03